

MIG welders

MIG welders are the most popular types of welders on the market. These welders are efficient and offer unique benefits. If you are a beginner, you will find MIG welding a simple, straightforward process.

How To Choose The Best MIG Welder

Finding the right MIG welder that will satisfactorily meet your needs can be a challenge. There are so many technical details and welding jargon that can overwhelm the average shopper.

to meet the needs : to match the needs

to be a challenge : to be difficult

welding jargon : technical words used to describe welding processes

average shopper : person with average welding knowledge

It can even be more difficult if you have never bought a MIG welder. To assist you in choosing the right welder, we have compiled a list of features that you must consider. These features are essential in every good MIG welder regardless of the price it comes at.

Price

If you want a premium MIG welder, you should be prepared to spend more than a thousand dollars. The more expensive the cost of the welder, the higher the quality. Spending \$1000+ on a welder ought to get you incredible quality. However, you must be sure that it is the right MIG welder for your use.

Buying a cheap welder but seem wise, especially if you are a beginner. You might feel that since you aren't a professional welder or an expert, it would be better to get something cheap till you get better at welding.

Although there are welders that come at a ridiculously low price, it will likely not deliver the performance you desire. And even if it does give you a good performance, it might not be durable.

you get better at welding : to master welding, to learn welding

ridiculously low price: very low price

Choosing the right MIG welder for the right price depends on the purpose and the welding processes you intend to do. If you are a beginner, we recommend that you buy a welder within the \$300-\$500 range.

In this range, you should get a decent welder that will deliver good performance and be durable as well. If you are welding materials like aluminum, you should note that your welder will require a spool gun. Spool guns are added expenses that can cost up to \$300.

welding materials like aluminum requires added options like a spool gun

Power Outlets

Since the MIG welder runs on electricity, you must consider the power outlets in the workshop or in your home. MIG welders can run on either 110V or 220V power.

A 110V welder is a great option because 110v outlets are commonly found in household outlets. Therefore, you can plug the welders anywhere you go. A 220v outlet is not as common as a 110v outlet.

(specific to USA)

220v outlet : mains socket for 220v

So, if your MIG welder comes with a 220v inlet, you might need to install a 220v outlet. 220v welders deliver more power than their 110v counterparts. They can weld materials with a thickness of up to ½” with ease.

220v inlet: plug for 220v

thickness of up to ½” needs 220v

Warranty

Your welder should offer a warranty. If you buy a welder without a warranty, that can be a red flag. A warranty shows that the manufacturer has confidence in its product. If the product has a lengthy warranty period, it usually indicates that it is a high-quality product.

periods of warranty of the manufacturer: good quality product

the longer the period : the better is the quality

Purpose of the Welder

The right MIG welder for you depends on the type of jobs you plan on using the welder for. It also depends on the duration and frequency of your welding.

If you plan on using the welder for heavy-duty projects, you need to get a heavy-duty welder. These welders produce enormous amounts of power, and they can weld very thick materials. You should note that the higher the power it delivers, the more it will cost you.

heavy-duty projects need heavy-duty welders

the higher the power means the higher is the cost

On the other hand, if the project you want to handle is a light-duty project or if you will be welding light, thin materials a few times per year, a light-duty welder is an excellent choice. These entry-level welders are usually made of beginners and are quite cheap.

light-duty projects : welding light, thin materials a few times per year need light-duty welders

If you are handling medium-duty jobs, or are welding varying types of materials of middling thickness, a welder classed as a medium-duty welder is the right choice.

medium-duty jobs : middle thicknesses needs medium-duty welders

Shielding gas

Shielding gas is a vital element in producing a clean weld. With a good shielding gas, you do not have to replace your electrode constantly. Shielding gas plays a vital role in MIG welding, and we will consider why this element is so vital in MIG welding.

Shielding gas : protecting gas, insulating gas, isolation gas

Shielding gas serves as a shield for your molten weld. The quality of the molten weld can be affected by the presence of oxygen, hydrogen, and nitrogen. These

gases, if they interact with the molten weld reduce the quality of the weld bead and can cause the process to produce more splatter than usual. Hence, the shielding gas keeps these elements away from the molten weld.

molten weld : liquid state of the weld

Overall, the quality of the weld is greatly affected by the effectiveness of the shielding gas. How can you choose the right shielding gas? Let's see.

quality of MIG welding depends on the shielding gas

How to choose the right shielding gas

Your choice of [shielding gas for your MIG welder](#) depends on such factors as your budget, the desired properties of the weld, the material being welded, and so on. Some of the popular gases used as shielding gases include:

- Argon
- Helium
- Carbon Dioxide
- Oxygen

Each of these gases offers distinct advantages.

Carbon Dioxide is the only gas on the list that can be used alone as a shielding gas. The remaining gases have to be mixed in different ratios to be effective. Carbon dioxide is cheap and is great for welding thick materials. However, compared with other gases, the arc produced is less stable, and it produces more spatter. To reduce spatter, carbon dioxide is usually mixed with other gases.

advantages: used alone, cheap, great for thick materials

disadvantages: less stable produced arc, more spatter

Oxygen produces an excellent weld, but it oxidizes the base material, which is bad for metals like aluminum.

advantages: excellent weld

disadvantages: oxidizes the base material, bad for metals like aluminum

Helium is a great shielding gas, especially with thick materials, however, it is rather expensive.

advantages: great shielding gas with thick materials

disadvantages: expensive

The last shielding gas, **Argon**, produces visually pleasing welds and is usually mixed with the other types of welding gas.

advantages: visually pleasing welds, can be mixed with the other types of gases

Advantages of MIG Welding

MIG welding is the most popular type of welding processes. Some advantages of this welding process include:

- MIG welding is fast. MIG welders save time for users because the user does not have to change rods often. Furthermore, it saves time as users do not have to clean slag formed from welding constantly. It produces a fine weld.
- MIG welding is cheap. Getting a high-quality MIG welder does not cost as much as getting other welders. With less than \$600, a welder can get high-quality equipment for the process. You might have to spend money on shielding gas and MIG wire, though, but even with this added expense, it is still cheaper than other welding processes.

Furthermore, consumables spent on MIG welding are less than other processes.

- MIG welding is easy to master. Compared with other welding processes, it is easy to learn. Others might have a steeper learning curve, but MIG welding takes a short time to learn.
- MIG welding is versatile. With this process, a welder can weld various types of metals. You can weld copper, mild steel, aluminum, iron, and different alloys. Furthermore, you can weld different thicknesses as long as the amperage and configuration are right.

advantages of MIG: save time, cheap, easy to master, versatile

Disadvantages of MIG Welding

- While the welder might be lightweight, the cylinders that house the shielding gas can be heavy and cumbersome to carry around.

- The material to be welded has to be cleaned which can take some time
- Not meant to be done outdoors: MIG welding is not meant to be done outdoors because it is sensitive to wind. The shielding gas can be blown away during the process, which will affect the quality of the weld.

disadvantages of MIG: added weight with gas containers, material needs to be cleaned before use, used indoors because affected by the wind

Conclusion

We know that choosing the best MIG welder can be challenging. Hence, we hope that this review and buying guide will make the decision process more manageable.