

# Mini Excavators Buyer's Guide

*By the purchasing experts at BuyerZone*

Weighing in at two to six tons, there is little that's mini about "mini excavators." Also known as "compact excavators", these machines are becoming popular for a wide range of applications from utility work to demolition to landscaping.

About the same size as a skid steer loader, compact excavators mount one heavy-duty arm on a set of bulldozer like tracks to tackle digging applications in smaller environments. This **BuyerZone Mini Excavators Buyer's Guide** provides all the essentials you need to know before buying a mini excavator:

- Basic feature rundown
- How to choose the right size
- What features to look for
- How to choose a dealer
- How much you can expect to pay



To start, here's a quick look at some typical mini excavator specs and costs.

Power	Weight	Dig depth	Cost (new)
10 HP	1,800 lbs	4' – 5'	\$20,000
25 HP	8,000 lbs	10'	\$30,000 - \$40,000
50 HP	12,000 lbs	12'	\$80,000

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## Mini excavator basics

A mini excavator consists of a cab, engine, dual bulldozer-like tracks or treads, a boom arm, and an attachment.

- The **cab**, where the operator sits, can pivot 360° on top of the tracks.
- The diesel **engine** provides propulsion power for the tracks and powers the hydraulic systems that do the digging.
- The steel or rubber **tracks** move the machine around the work site, even on loose or muddy ground. (Read more about steel and rubber tracks in **Features**.)
- The **boom**, the arm that holds the attachment, provides the digging power.
- The **attachment** does the actual work. Most excavators come with a standard bucket – a toothed scoop for digging into dirt or gravel – but can support many other types of attachments.

## Choosing a mini excavator

One of the challenges in buying a mini excavator is deciding what size machine you need. Here are five sizing considerations to keep in mind.

1. Since one of the primary advantages of a mini excavator is its ability to fit in tight spaces, the most basic consideration is the **physical size of the machine**. Measure any narrow gates or other confined areas you want to be able to drive the excavator through and you'll have an upper limit on how large a machine you can buy.
2. A close second is **how deep you need to dig**. Mini excavators have rated "dig depths" – the limit of how deep they can dig – of 4 feet to over 12 feet. Dig depths of 5 to 7 feet can handle the vast majority of all utility, landscaping, and basic residential construction work; the most popular mini excavators have dig depths of around 10 feet.
3. You may need to consider **dump height**. This measures how high the bucket can lift to deposit materials in a dump truck. Dump height is less critical than dig depth in most cases, but can be important in some applications. Dump heights commonly range from around 5 to 10 feet.
4. **Overall weight** can be important. Mini excavators range from under two tons to over six tons. (Full-sized excavators can weigh 10 to 50 tons.) If minimizing damage to landscaping is important to your business, lighter machines provide a nice benefit. Also, smaller excavators can be towed behind a standard pickup truck, without the need for a commercial driver's license.
5. Lastly, you'll also need to know **how wide a trench** you want to dig: bucket sizes range from 9 to 36 inches, but larger excavators are required to lift the larger buckets. 24-inch buckets are the most common and good for many applications.

### Additional considerations

Once you know which models meet your size requirements, you'll want to compare some additional attributes that can vary from one excavator to another.

- **Controls.** Most new mini excavators feature "pilot hydraulic" controls. These ergonomic joysticks are a vast improvement over the old-style mechanical levers: they're easy to learn and to use for extended periods of time.
- **Ease of use.** "Feel" is important and impossible to judge from sales pitches or brochures. You should definitely take the machines you're considering for a test dig. If possible, let the primary operator try out different models for comfort, responsiveness, and visibility.
- **Maintenance.** Maintenance costs for mini excavators are the lowest of all comparably-sized equipment, but they still need regular maintenance and cleaning. Check how easy it is to access the engine and hydraulic systems. Also, ask for a demonstration of how to perform routine preventative maintenance such as filter changes, fluid top-offs, and lubrication.

### Features

Mini excavators offer virtually identical features and options to their larger cousins: the only real difference between mini and full-size excavators is scale. Here are some of the features you should evaluate.

- **Tracks.** Both steel and rubber tracks are popular on mini excavators. **Steel tracks** are more durable and provide good traction on loose dirt. However, on pavement or landscaped areas, **rubber tracks** do a much better job at reducing surface damage: a rubber-tracked mini excavator can drive right over a curb without crushing it.

Bolt-on rubber pads that operators can affix to steel treads offer a reasonable compromise. This gives you the strength of steel tracks but lets you switch to the less-damaging rubber pads when needed.

- **Attachments.** Switching between multiple attachments lets you get much more use out of your mini excavator. Different sizes and styles of buckets are used for different types of digging. Other common attachments include augers (for boring holes), thumbs (for pinching or gripping) and hydraulic hammers. Some mini excavators even use the same "quick attach" couplers as skid steer loaders, allowing you to share attachments between the two.
- Many compact excavators offer **boom offset** or **swing booms**. This popular feature moves the entire digging arm left or right of center. This allows the excavator to dig a trench parallel to its own tracks, and to do so in tight quarters next to existing walls or structures.
- **Zero tail swing.** Compact excavators with zero tail swing (sometimes called "compact radius" excavators) can rotate their cabs completely within the width of their tracks, preventing the operator from ever bumping anything with the "tail" or back part of the cab.

- **Backfill blade.** Many come standard with a backfill or bulldozer blade that attaches below the boom, making it easy to refill and level after you're done digging without having to change attachments.
- **Enclosed cabs.** As with skid steer loaders, enclosed cabs that shelter operators from the elements are becoming much more popular on mini excavators than they used to be. These often include heat and air conditioning, and can go a long way towards keeping operators comfortable and working at their best.
- **Anti-vandalism features.** If you'll be leaving your excavator at job sites overnight, look for compact excavators that allow you to lock up the controls to prevent troublemakers from damaging the machine or your work.

Unlike some other types of compact equipment, mini excavators are almost exclusively available with diesel engines. (Electric mini excavators do exist, but they're very rare.) A single tank of diesel fuel should give you a day to a day and a half's use.

### Choosing a dealer

When buying a mini excavator, you're creating an ongoing relationship with the equipment dealer. The dealer will provide the service and support to keep your machine running smoothly, so it's important that you find one who is reputable, stable, and can provide top-notch service.

Some important questions to ask when evaluating mini excavator dealers:

- How long have you been in business?
- What kind of parts inventory do you keep on site?
- How many technicians do you have? What is their training and experience like?
- Do you do on-site service if my excavator needs repairs?
- Do you have guaranteed response times?
- Do you provide loaners if my excavator needs to be taken in for service?

You should visit the dealer's facility. Simply seeing the parts warehouse and service areas can give you a good sense of their capabilities.

### Get the scoop

Talking to other businesses in your area can be a great source of insight into dealers' strengths and weaknesses. Connect with your peers to find out where they turn for compact construction equipment, and get their opinions on the dealers you're considering.

You should also ask the dealer for customer references, preferably of customers with applications similar to yours. When checking references, you can ask questions like these:

- How long have you been a customer of theirs? How many machines have you purchased from them?
- Did you get the right machines for your applications?
- Has the dealer done a good job with maintenance and repairs?

- Would you buy from this dealer again?
- What could the dealer improve about their operation?

Lastly, trust your instincts. A pushy dealer who seems more interested in selling you the 'deal of the day' than understanding your needs and providing the best solution for you is one you should avoid. Helpful and knowledgeable salespeople are a good indicator of a dealership that will be a worthwhile partner in the long run.

## Mini excavator pricing

New mini excavators are not cheap: they can range from \$19,000 at the low end to \$90,000 for the largest models. However, when you compare this to a full size excavator's costs – \$130,000 to \$500,000 – the compact models look like a better bargain.

A typical \$20,000 model will provide dig depths of four to five feet and dump heights of five to six feet. It will weigh around 1,500 to 2,000 lbs and have about a 10 horsepower (HP) engine.

The most common models can cost between \$30,000 and \$40,000 new. These weigh around 8,000 lbs, have dig depths of 10 feet, and put out around 25 HP.

At the high end, an \$80,000 model will reach and dump over 12', weigh 12,000 lbs, and boast a 40 or 50 HP engine.

You'll usually get one bucket with the excavator – new buckets in additional sizes can cost between \$700 and \$1,000. Powered attachments like thumbs and hydraulic hammers can cost \$5,000 to \$10,000.

## Used mini excavators

If you are going to depend on the excavator for your day-to-day work, you should probably invest in a new machine. However, if you're only going to use the excavator occasionally, buying used can be a great way to save money.

Excavators are built with 8,000 to 10,000 hours expected operating lifespan, so many used models are available with good operating lives left in them. Two- to three-year old models with a couple of thousand hours on them can be about 25% cheaper than new models, while older mini excavators with a little more wear are 50% or less of new prices.

When evaluating used machines, test drives are even more important than with new machines. Pay attention to the overall feel – if the tracks run freely in both directions and if the arm responds well to the controls. However, don't let yourself be wowed by a fresh coat of paint – that can sometimes mean the dealer is hiding other problems.

Inspect the undercarriage for excessive wear, rust, and shoddy repair work. Look at the hydraulic seals for signs of leaks or other problems, and check the engine for signs of neglect (cracking hoses, worn belts, etc).

## Maintenance

Most dealers will offer a range of maintenance contracts to choose from. If you're buying a new excavator, these generally aren't worth the cost: you can do the basic preventative maintenance yourself, and the manufacturer's warranty will cover the rare mechanical breakdown.

If you're buying a used excavator, the extra protection of a maintenance contract can be a better value. Just having expert technicians inspect and lubricate the machine once or twice per year can help prevent small defects from developing into larger problems.

## Buying tips

- **Rentals.** Mini excavators can be rented for average prices of \$150/day or \$1,000/month. Renting is a great way to see the power one of these machines provides without committing to a purchase. It can also be a smart course if you only need one sporadically.
- **Working in tandem.** A mini excavator and a skid steer loader are a powerful combo that can often replace a full-sized backhoe loader. In addition to being more economical, having both machines lets you do two jobs at once. On the other hand, that requires two operators – and skilled operators can be much more difficult to find than cheap equipment.
- **The right tool for the job.** If you're using a tool that requires hydraulic power – a thumb, auger, or other powered attachment – make sure your excavator is supplying the correct amount of hydraulic pressure. Too much pressure and you risk damaging the tool; too little and the performance will suffer.