

Air casters are the most sensible, economical alternative to forklifts in manufacturing and other industrial facilities

In many industrial and manufacturing settings, the forklift is the *de facto* material handling system for moving heavy loads. But forklifts aren't ideal in every scenario: they can be costly, face weight limitations, require certified operators, can impose safety hazards, and more.

But what's the alternative?

Air casters – which work by floating heavy loads on a super-thin film of compressed air – are a simple and relatively inexpensive solution that can substitute for forklifts in almost every situation. Air casters yield greater material handling capacity, improved cost-efficiency, and dramatically superior flexibility.

But how do they compare directly? Let's take a closer look.

Weight

Air casters can support a far more expansive range of weights than forklifts. The average forklift can handle loads up to around 10 tons, though many smaller models will max out around 2.5 tons. While fork truck options *are* available for supersize loads above 10 tons, these gigantic vehicles also represent a staggering increase in expense and take up an enormous amount of additional room. But even they have their limits: past 50 tons, forklifts simply become impractical to the point of impossibility.

Air casters, by contrast, can move virtually any weight class; it's just a matter of making sure there are enough individual casters beneath the load.

Pathing

Both forklifts and air casters offer superior maneuverability compared to something like a rail or conveyor; they are limited only by obstruction in the environment, like vertical clearances and the presence of other objects in the facility.

However, air casters handily beat out forklifts when it comes to the amount of space required for that maneuverability. Forklifts are large and unwieldy vehicles that require massive amounts of clearance to fit, move, and turn around. But because air casters fit within the footprint of the load to be moved and can rotate 360 degree in-place, they can maneuver into and around incredibly tight and hard-to-reach spaces that would be impossible for forklifts.

Distance/Frequency

Both air casters and forklifts work well for moves of any frequency, i.e. whether you're moving the load once a day or once a year. But distance makes a difference too. In general, air casters – because they must remain connected to the facility's compressed air supply – *can* manage longer distances but work best for closer moves. Forklifts have a little more flexibility in this regard, as long as they have a mostly unrestricted operating area within which to maneuver.

Cost Considerations

Forklifts are simply more expensive than air casters in most situations. That’s especially true if the facility requires an extra-large model that can haul super-heavy weights. But it’s not just the initial purchase price that matters. Forklifts require expensive operator training and certification, whereas anyone can push an air caster with minimal training. Additionally, the more complex the move system, the more maintenance and repairs it will involve over time. Ongoing operating and fuel costs for forklifts will dwarf similar expenses for air casters, resulting in a *much* higher total cost of ownership.

Safety Considerations

Forklifts post serious safety risks, resulting in an average of [85 fatalities and nearly 35,000 injuries annually](#) in the U.S. Fork trucks must often navigate tight areas with limited visibility that can result in collisions with both heavy objects and people. Additionally, an improperly loaded load can unbalance the entire vehicle. Because forklifts lift the load, they also run the risk of dropping potentially delicate loads onto even more delicate people. Forklifts, when operated wisely and correctly, can be a safe way to move heavy loads. But in this regard, they simply don’t compare to air casters, which only lift loads up a few inches and run much lower risks of running into objects, given that they can operate easily in tighter spaces.

	Description	Advantages	Disadvantages
Air Casters	Air casters lift loads on a thin, frictionless membrane of air so that the load can be easily pushed in any direction.	<ul style="list-style-type: none"> • Can move enormously heavy loads that defeat other systems • Relatively inexpensive, particularly at high weights • Very flexible in usage • Variable move path • Rotates within its own footprint 	<ul style="list-style-type: none"> • Heavily dependent on floor condition • Requires compressed air (hoses)
Forklifts	Forklifts lift loads on forks to move loads over variable paths.	<ul style="list-style-type: none"> • Flexible and user-friendly move system • Can provide limited vertical movement 	<ul style="list-style-type: none"> • Requires plenty of open floor space • Weight limitations • Requires certified operator, limiting availability • Relatively high risks to human safety and load damage • Air quality (exhaust)

For in-depth analysis and a complete walk-through of each of these questions, please read our [white paper](https://www.aerogo.com/resource/selecting-the-right-load-handling-equipment/) at <https://www.aerogo.com/resource/selecting-the-right-load-handling-equipment/>.