

Electric Forklift

Used Electric Forklift Fontana - By definition, an electric forklift is a forklift truck which derives its power from an electric motor rather than an internal combustion engine. Electricity comes from a fuel cell or internal industrial batteries. Internal batteries often provide the electrical source. They are capable of being recharged by connecting the battery to a source that is electrically compatible. Rechargeable battery options include lithium-ion or lead-acid. Electrical production by means of a fuel cell is similar to a battery source but cannot be recharged by connecting to an electrical source, instead requiring refueling. Electrical forklifts can do the same type of work as internal combustion engine forklifts. Both models utilize two power horizontal forks to load, transport and unload items. The main difference between these different forklift models is their source of power. Most electric forklift models are used for internal applications including warehouses and similar locations that cannot function with comprised air quality. Electric Forklift Classifications The electric forklift truck can fall into one or more forklift truck classifications. They are: 1. Class 1: Electric Motor Rider Trucks The Class 1 Electric Motor Rider Trucks are one of the classifications. These models have cushion or pneumatic tires. Cushion tires are generally used on smooth indoor surfaces and pneumatic tires are mostly used for exterior applications. 2. Class 2: Electric Motor Narrow Aisle Trucks The Class 2 Electric Motor Narrow Aisle Trucks are another classification. These units function within very narrow aisle locations with limited space. This design enables maximum storage space. Class 2 models feature a modified design to limit the amount of space the forklift takes up. 3. Class 3: Electric Motor Hand or Hand-Rider Trucks The Class 3 Electric Hand-Rider Trucks or Electric Motor Hand models are hand controlled. This means the operator uses a steering tiller and is positioned in front of the machine as opposed to riding on the forklift. 4. Class 6: Electric and Internal Combustion Engine Tractors This classification includes forklifts that allow for a broad application use. In the electric forklift version, they are usually used for indoor use or dry outdoor use. A list of forklift trucks that are typically powered by electricity are: Sources of Electricity for Electric Forklifts Mostly, electric forklift models are used for interior applications on even, flat floors. Battery-powered forklifts are better suited for interior jobs as they do not emit poisonous gases; making them ideal for food-processing and healthcare applications. Refrigerated jobs prefer to use fuel cell forklifts. They make no emissions and are capable of working in colder locations without a power reduction, unlike battery-operated models. Lead-acid battery Lead-acid batteries are the most commonly used type of rechargeable battery. The lead-acid battery's ability to supply high surge currents means that it has a relatively large power-to-weight ratio. These affordable models consistently make lead-acid models popular batteries for electrical forklifts. It's important to know that lead-acid batteries can possibly freeze during frigid temperatures and this type of battery requires on-going maintenance. Lithium-ion Battery Another type of rechargeable battery used in electric forklift trucks is lithium-ion or li-ion batteries. Explosions or fires may result in these batteries if they are improperly charged or damaged due to the flammable electrolyte they contain. Lithium-ion batteries are also more expensive than lead-acid batteries, at least initially. However, they provide more efficiency than lead-acid batteries and require no maintenance. The Li-ion batteries can function with a broader temperature range compared to lead-acid batteries. Fuel Cell Forklifts that rely on fuel-cell power feature some benefits of both internal combustion and battery-operated forklift trucks. Like forklifts powered by battery, fuel cell power produces no local emissions. Fuel cell power efficiency is only forty to fifty percent which is roughly half as much as lithium-ion batteries. However, fuel cell power has a higher energy density which can allow electrical forklifts to run longer. Fuel cell forklift trucks operate better in cooler temperatures compared to li-ion battery models. For this reason, fuel cell powered forklifts are often preferred for use in colder temperatures, such as refrigerated warehouses. Fuel cells need a fuel source in order to create an electrical current and need refueling. However, they can be refueled in about three minutes, whereas batteries take much longer to

recharge. It is beneficial for businesses that rely on many forklifts that operate numerous shifts to use fuel cell models since they don't have the same downtime for charging batteries.

Pros and Cons of Electrically Powered Forklifts

Advantages of Electric Forklifts

Electric forklifts are often a popular choice compared to internal combustion models if the lifting capacity doesn't exceed 12,000 pounds. Numerous factors are considered to determine if the electric forklift truck is the most accurate choice. It is necessary to discover the pros and cons of internal combustion engine forklift models versus electric forklift models prior to making a decision. Certain advantages of the different types of forklift models are discussed below.

1. The operating costs of battery-powered electric forklifts are significantly lower compared to internal combustion models since fuel costs continue to increase.
2. Electricity costs are more predictable than fluctuating fuel costs. This makes electric forklifts a more reliable choice in terms of operating expenses and budgets.
3. Electric forklift trucks rely on recharging stations which eliminates the requirement of fuel transportation and storage for both the equipment and the job site.
4. Electrical forklifts, both battery and fuel cell powered, produce no emissions or noise pollution. The back-up alarm is the main exception; however, this is a normal characteristic of internal combustion forklifts as well.
5. Operator fatigue and equipment wear and tear are reduced in electric forklift models with the automatic braking system.
6. Electrical forklifts have longer intervals between maintenance than do internal combustion engine forklifts. This is largely due to the fewer moving parts required in a battery or fuel cell powered forklift.

Disadvantages of Electric Forklifts

For many of the reasons listed above, forklifts powered by electrical means have been more popular than power by internal combustion engines in recent years. Numerous circumstances however still prefer internal combustion forklifts. Certain electric forklift models disadvantages as compared to combustion models are listed below.

1. Electric forklifts feature a lifting capacity of around 12k lbs. or less, limiting them from heavier jobs. This translates to using an internal combustion forklift on jobs where there is limited heavy lifting required.
2. Battery powered electrical forklifts must be recharged and therefore require sufficient recharging stations to be installed at facilities where none are already present. This could amount to a significantly increased initial expense to the buyer.
3. Batteries also require that attention be given to the timing and length of a charge. This is because the life of batteries can be reduced if charged too frequently or not enough.
4. Internal combustion engine forklifts are also less expensive compared to electric forklift models.
5. In some older facilities, the electrical system may need to be upgraded to accommodate an increased voltage requirement of battery powered forklifts.
6. Battery-powered units may rely on machinery to lower and lift the heavy replacement batteries during replacement.

Electric forklift trucks have a wide range of benefits. They may not be adequate in certain working environments due to their weather and weight restrictions so check your job list accordingly.