Electric Forklift

Used Electric Forklift South Carolina - Electric forklift models do not rely on combustion engines but use an electric motor instead. The electricity is sourced from either internal industrial batteries or fuel cell. 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. Producing electricity with a fuel cell is similar to using a battery source; however, the fuel cell needs refueling and will bot be recharged from connecting to anything electrical. Internal combustion engine forklift models and electrical forklifts can complete the same types of jobs. 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. Electrically powered forklifts are typically used in warehouses and other indoor facilities where an internal combustion engine would cause poor air quality for workers. 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 These forklifts can have pneumatic or cushion tires. Pneumatic tires are used on forklifts primarily operated outdoors in dry areas and on uneven surfaces whereas cushion tires are better on forklifts used primarily indoors, on smooth surfaces. 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 Another classification is the Class 3 Electric Motor Hand or Hand-Rider Trucks. These machines are hand-controlled. The operator is positioned in front of the machine and relies on a steering tiller instead of 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 Electric forklifts are predominantly used indoors on flat, even surfaces. Battery operated forklifts stop the emission of dangerous gases and are preferred for interior locations including food-processing facilities and healthcare. 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 The main type of rechargeable battery is lead-acid batteries. 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. However, lead-acid batteries are susceptible to freezing in colder temperatures. They also require maintenance which, if ignored, can shorten the life of the battery. Lithium-ion Battery A lithium-ion battery or li-ion battery is another type of rechargeable battery used in electric forklifts. The main issue with these batteries is they contain a flammable electrolyte and pose a safety hazard if damaged or charged improperly which may lead to fires or explosions. Lithium-ion batteries initially cost more than lead-acid varieties, but they provide better efficiency and require no maintenance compared to lead-acid models. Lithium-ion batteries are also able to operate over a greater temperature range with higher energy densities than lead-acid batteries. Fuel Cell Fuel-cell powered forklifts have some of the benefits of both battery operated forklifts and internal combustion engine forklifts. Similar to battery-powered forklifts, there are no local emissions delivered from fuel cell models. One of the fuel cell power disadvantages is that they are approximately half as efficient as li-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. The fuel cell models are preferred for colder applications such as warehouses that are refrigerated. 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. Because of this, large operations which run several shifts and larger fleets of forklifts tend to benefit from the ability to keep the forklift operating without having to account for lengthy charging times. Pros and Cons of Electrically Powered Forklifts Advantages of Electric Forklifts When a lift capacity doesn't have to be greater than 12,000 lbs. electric forklift trucks are often a better option compared to combustion engine forklift trucks. There are many factors to consider in each specific application in order to determine whether an electric forklift is the best option. It is essential to discover the pros and cons of one forklift type to another prior to choosing a model. Specific advantages of electric powered forklift models vs. internal combustion engine models are listed below. 1. Operating costs can be much lower for battery powered electrical forklifts because of the ongoing and often increasing cost of fuel. 2. Electricity costs are more predictable than fluctuating fuel costs. This makes electric forklifts are more reliable choice in terms of operating expenses and budgets. 3. Battery powered electric forklifts also allow for recharging at charging stations. This eliminates the necessity for fuel transportation and fuel storage, both at the worksite and onboard the forklift itself. 4. Both fuel cell and battery-powered electric forklifts produce zero noise pollution or emissions. Both internal combustion engine forklifts and electric models have a back-up alarm that is noisy but necessary. 5. Operator equipment and fatigue is reduced in electric forklift models thanks to the automatic braking technology. 6. There are longer intervals between maintenance requirements for electric forklifts compared to internal combustion models due to less moving parts used by a battery-powered or a fuel cell unit. Disadvantages of Electric Forklifts For a variety of reasons, electric forklifts have become more popular in recent years over internal combustion models. There are numerous working conditions however that make electrical models less practical. Some of the disadvantages the electrical forklift has when compared to internal combustion engine forklifts are set out below. 1. Since electric forklifts have a lift capacity of approximately 12,000 lbs. many jobs still choose to use an internal combustion model where there are heavy lifting requirements, even when they are only occasionally needed. 2. Facilities require recharging stations to accommodate electric forklift trucks. If there are none currently installed, this will cost significantly more. 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. Certain older buildings may need to undergo electrical upgrades to accommodate increased voltage systems. 6. Battery powered forklifts sometimes require machinery to lift or lower the heavy batteries when replacement of batteries is necessary. Overall, electric forklift trucks provide numerous advantages compared to internal combustion engines however, they may not work in a variety of outdoor applications with their weight and weather restrictions.