Electric Forklift

Used Electric Forklift Murrieta - 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. 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. 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 source of power is the main difference between an internal combustion engine and an electrical forklift model. 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 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 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. The types of forklift trucks that are usually electrically powered include: electric counterbalanced trucks, pallet jacks, scissor lifts, rider low lift trucks, order pickers, cushion tire forklifts, rider low stacker, reach truck, walkie low lift trucks, towing tractor trucks and walkie low stackers. Sources of Electricity for Electric Forklifts Electric forklifts are predominantly used indoors on flat, even surfaces. Battery powered forklifts prevent the emission of harmful gases and are suggested for indoor facilities, such as healthcare and food-processing facilities. Fuel cell powered forklifts also produce no local emissions and are often used in refrigerated warehouses because, unlike batteries, their performance is not reduced by the lower temperatures. Lead-acid battery The most popular type of rechargeable battery is lead-acid models. The lead-acid battery’s ability to supply high surge currents means that it has a relatively large power-to-weight ratio. This, coupled with its affordability, make lead-acid batteries a popular option for use in electric forklift trucks. Lead-acid batteries require maintenance and may freeze during colder temperatures. These factors can shorten their lifespan. Lithium-ion Battery A Li-ion or lithium-ion battery is a different kind of rechargeable battery commonly used in electric forklift models. 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 are also more expensive than lead-acid batteries, at least initially. However, they provide more efficiency than lead-acid batteries and require no maintenance. Lithium-ion batteries are also able to operate over a greater temperature range with higher energy densities than lead-acid batteries. Fuel Cell Forklifts with fuel-cell power showcase the benefits of both battery-operated forklift trucks and internal combustion models. Fuel cell-powered forklifts provide no emissions like battery-powered forklift trucks. Fuel cell power efficiency is only forty to fifty percent which is roughly half as much as lithium- ion batteries. Fuels cell power offers better energy density and provides electric forklift trucks to run longer. Fuel cell forklift trucks operate better in cooler temperatures compared to li-ion battery models. Refrigerated warehouses rely on fuel cell models

due to their ability to function in cooler locations. Fuel cells are different from batteries in that they require a source of fuel to produce electrical current and so require refueling. While rechargeable batteries take a long time to recharge, fuel cells can be refilled in roughly three minutes. 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 forklift trucks can often be a better option than internal combustion engine forklifts where a lift capacity does not exceed 12,000 pounds. There are many factors to consider in each specific application in order to determine whether an electric forklift is the best option. 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. Operating costs can be much lower for battery powered electrical forklifts because of the ongoing and often increasing cost of fuel. 2. The cost of electricity is more predictable and more stable compared to combustible fuel; making electric forklifts a better choice when taking budgets and operating expenses into account. 3. There are recharging stations for battery-powered electric forklift. This system eliminates the necessity for fuel storage and transportation for both the machine and the worksite. 4. Battery-powered electric forklift models and fuel cell electric forklifts generate no noise pollution or dangerous emissions. The back-up alarm is the main exception; however, this is a normal characteristic of internal combustion forklifts as well. 5. The automatic braking systems on electrical forklifts helps to reduce wear and operator fatigue. 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. There are numerous working conditions however that make electrical models less practical. Key disadvantages of the electric forklifts in comparison to internal combustion engine are discussed below. 1. Electric forklifts typically have a limited lifting capacity of approximately 12,000 pounds or less which eliminates them as an option from larger jobs. Sometimes this means an internal combustion engine forklift is chosen even for jobsites where heavy jobs are few and far between but still a requirement. 2. Electric forklifts rely on battery power and require recharging stations to be installed. If there are none at the facility, this could greatly increase the overall cost. 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. All in all, electric forklifts have many advantages over internal combustion engine forklifts but still are not appropriate in many outdoor applications, mostly due to weather and weight restrictions.