Electric Forklift

Used Electric Forklift Everett - 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. If internal batteries provide the electrical source, the batteries can be recharged by joining the battery to something electrically compatible. These rechargeable batteries are lead-acid or lithium-ion battery. Electrical production with a fuel cell is close to a battery source but requires refueling to be recharged instead of connecting to an electrical source. 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. Typically, electric forklift models are used indoors in warehouses and similar facilities that cannot rely on internal combustion engines due to interior 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 These types of forklifts operate in very narrow aisles, where space is limited. This allows for maximum use of storage space. Class 2 forklifts have a modified design to minimize the amount of space taken up by the forklift. 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 The Class 6 Electric and Internal Combustion Engine Tractors are another classification. This includes models that can be used for broad application. The electric versions can be used outdoors in dry applications or used indoors. 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. Forklifts that rely on fuel cells produce zero emissions, making them popular in refrigerated warehouses since their performance is not affected by lower temperatures the way batteries are. 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. 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 A Li-ion or lithium-ion battery is a different kind of rechargeable battery commonly used in electric forklift models. The main drawback of lithium-ion batteries is that they can be a safety hazard since they contain a flammable electrolyte that, if incorrectly charged or damaged can cause explosions and fires. Additionally, Li-ion batteries cost more compared to lead-acid batteries initially; although they need zero maintenance and provide better efficiency compared to lead-acid batteries. Another benefit is that the lithium-ion batteries can operate with a wider temperature range and better energy densities compared to lead-acid varieties. Fuel Cell Forklifts with fuel-cell power showcase the benefits of both battery-operated forklift trucks and internal combustion models. 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. Fuels cell power offers better energy density and provides electric forklift trucks to run longer. Fuel cell powered forklifts also have the advantage of performing better in lower temperatures as lithium-ion batteries. The fuel cell models are preferred for colder applications such as warehouses that are refrigerated. Different from batteries, fuel cells rely on refueling with a fuel source to create an electrical current. 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. Of course, there are many considerations to decide if the electric forklift model is the best choice for a particular application. It is necessary to discover the pros and cons of internal combustion engine forklift models versus electric forklift models prior to making a decision. 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. The automatic braking systems on electrical forklifts helps to reduce wear and operator fatigue. 6. Electric forklifts boast greater intervals between maintenance compared to internal combustion engine models. This is mainly because there are less moving parts required by a fuel cell or battery-powered forklift model. Disadvantages of Electric Forklifts Internal combustion forklifts have become less popular than electric forklifts over recent years. However, there are still several applications that make electrical forklifts a less practical option. 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. Electric forklift trucks are also initially more expensive than internal combustion engine forklifts. 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 forklifts sometimes require machinery to lift or lower the heavy batteries when replacement of batteries is necessary. 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.