



#### **Q** Why do I need a battery room?

A If you operate your MHE fleet with spare batteries, you need a dedicated place to change them, which involves lifting or pulling the batteries using specialized equipment such as a 'Tugger' or change cart. It is also necessary to store the batteries during the 8-12 hours recharge period, which must be electrically connected to a battery charger.

In many cases, it is also necessary to have a forced extraction system to manage the gases produced by conventional lead-acid batteries during the charging process. This requirement depends on the kW size of the battery fleet, and the regulations should be checked in the country of use as conditions differ.



#### **Q** What can I do to minimize the size of a battery room?

A Get your battery handling expert involved as early as possible when designing the building or planning the size and location of the battery room. Carney can provide expertise in the design of single to 6 level change & charge systems which can radically reduce the footprint of your battery room. This means you retain more floor space for your core business.



# **Q** What equipment is needed in a battery room?

A You will need battery chargers, battery charging racks and some type of battery changing machine which can be manually operated, power-assisted or fully automated. You will need a suitably sized electrical supply and distribution setup and depending on fleet size, you may need a ventilation system. To prevent against accidents involving battery acid, it is also strongly advised to have safety equipment such as an eyewash station, emergency shower, and acid spill kits.







#### **Q** Does the battery room need to be always staffed?

A It depends on how many batteries are changed per shift and who has been trained to perform the battery change competently. The truck drivers can complete the battery change in smaller operations that use manual transfer carts or a battery tugger. It is normal to have a dedicated operator in larger battery rooms with 30+ batteries that utilize a man-aboard transfer cart. This can add costs to the battery change operation; however, a thoroughly competent operator will prevent costly damage to trucks, batteries and associated infrastructure.

It is now possible to eliminate the cost of dedicated operators with Carnev's BBE Fully Automated battery change system. This system, which has been used in the AGV market since 2004, has been adapted for use with mainstream MHE an offers an attractive ROI and more or less removes asset damage.



## Q Do I size the battery room for our annual peak shipment demands when renting additional equipment during these busy seasons?

A Future-proofing is a crucial consideration when <u>Carney</u> designs your battery room. This principle will explore the size of the core fleet, the seasonal peak fluctuations (such as harvest time or Christmas), and the maximum potential size of the fleet in the future. The room should then be sized, considering these factors.



### **Q** Are there any alternatives to a battery room?

A Yes, there at many ways to deliver power to your lift truck fleet. You can change batteries, park and charge your fleet, or fast charge with high output battery chargers and special motors.





## Q How much energy is the battery room going to consume per annum?

A The battery room will be one of your business's largest electrical consumption areas. You refuel each time you plug a battery or truck into the charger for 8-10 hours. The actual energy the room will use will depend on a few factors:

- 1. How many batteries are on charge
- 2. What state of charge are the batteries
- 3. Can your operation accommodate an intelligent fleet management system?

For accurate consumption calculations contact our design team here.



### **Q** How many spare batteries do I need?

A To maximize a changing system and accurately determine spare battery requirements vs usage, operational throughput needs to be measured by a professional.



# Q Do I need a shower eyewash system?

A YES Eyewash station is required by OSHA when handling industrial lead-acid batteries. Most countries around the world have adopted this regulation.



### **Q** Am I required to have ventilation over my battery charging area?

A Battery room ventilation is required when the concentration of hydrogen gas has the potential to exceed 2%. Municipalities ventilation is also needed in some regions for park & charge stations.





#### **Q** What safety equipment must I have for changing batteries in lift trucks?

▲ The recommended PPE for changing batteries is an acid-resistant eye/face covering, gloves and an acid-resistant apron.



#### **Q** How often should we service our battery changer?

A Once a month, service your battery changer, lubricating and cleaning moving parts to prevent damage. Inspect the machine before each use.



#### **Q** Do I need to use Epoxy seal coating on my charging area floor?

A Epoxy sealing warehouse floors make cleaning easier and lower maintenance costs. Its natural durability significantly reduces dust in the warehouse and keeps the foundation protected from acid saturation—a cost-effective solution for operations that lease warehouse space.

