

# POWERPRO GOLF - Choosing a golf battery

## What size?

Check the size of your battery tray and choose the size of battery to fit it. Sealed batteries can also be used on their side or the end with no detrimental effect. If you have a trolley designed for a smaller, slimline battery (e.g. Hillbilly®, Mocad®) etc, do not attempt to use a larger size battery as this may unbalance the trolley. The dimensions of all our batteries are published along with the battery description.

## What capacity?

The rule of thumb with golf batteries is "1 amp hour per hole". In other words, a 20AH (amp hour) battery will last for 20 holes, a 36AH battery for 36 holes. The higher the capacity, the longer the battery will last before needing to be recharged. This applies to using the battery on a hilly course – you may get a few more holes on a flat course, but not many!

Another advantage of a larger capacity battery is that it will, generally, last longer. If you play 18 holes with an 18AH battery, the battery will be almost drained to its designed capacity. Playing more holes than the design capacity could seriously damage the battery because the excess concentrated acid in a discharged battery may attack the battery plates. If you play 18 holes with a 28AH battery, the battery will have plenty of charge left in reserve, will recover more quickly when charged and generally last more years.

## What capacity is best for you?

If you play only 18 holes once or twice a week, choose a 20/22AH battery.

If you play 18 holes 3 or 4 times a week, or occasionally play 27 holes, choose a 28/30AH battery.

If you play a lot of golf or need 36 hole capacity, choose a 36AH battery.

If you play a lot of golf, but your trolley is designed for a smaller 'slimline' battery, consider buying a second battery and alternating them.

## What type?

All golf batteries are designed for deep discharge, whereas car batteries are designed to release a high charge in a short time when starting the car. A golf battery has to perform for a long time between charges whilst a car battery is charged almost immediately by the car's alternator. Choose only a deep discharge battery for your electric golf trolley.

There are 3 main types of deep discharge battery –AGM, SDC and Gel.

All are designed as sealed batteries, and all are variations on lead-acid technology. In all these types, the acid is 'immobilised' so that is no longer liquid and will not leak. They are often referred to as 'Sealed Lead Acid' batteries. They can be used on their base, end or side as they do not leak. However, all lead acid batteries produce gasses during use and charging which is vented through special valves. It is therefore important that they are not used or stored upside-down.

## AGM Batteries

AGM (Absorbent Glass Mat) uses a Boron Silicate glass fibre mat between the battery plates to hold the battery acid. The mat absorbs and immobilises the acid in the mat but keeps it in a liquid rather than a gel form. In this way the acid is more readily available to the plates allowing faster reactions between the acid and the plate material allowing higher charge/discharge rates as well as deep cycling. This construction is very robust and able to withstand severe shock and vibration and the cells will not leak even if the case is cracked. AGM is the most popular type of golf battery and is relatively inexpensive.

## SDC Batteries

SDC (Superior Discharge Capacity) batteries are a form of AGM battery which use thinner and purer lead battery plates. They are capable of deeper discharge than an ordinary AGM battery giving them a higher usable capacity.

## GEL Batteries

In a Gel battery, the electrolyte is 'gelled' using Silica Gel into a jellified state. Because no mat is used, the electrolyte has better contact with the battery plates and produces more current more quickly. As there is no mat, Gel batteries are more prone to damage as there is less material between the plates to absorb any shocks. Generally, Gel batteries hold their charge better than an AGM/SDC battery if stored for a significant time – especially over the winter – and the electrolyte evaporates more slowly. They also tend to last longer. However, if choosing a Gel battery it is very important to have an appropriate charger as the charging voltage is more critical with a Gel battery. If you have an old, 2 stage charger, do not use it on a Gel battery as it may seriously damage the battery. Use only a modern 3 stage charger.

## How long will it last?

With proper care, a golf battery used twice a week should last 2 to 3 years. Most AGM batteries are rated at 300 cycles (charges and discharges). Typically a Gel or SDC battery is rated for 350-400 cycles. Please remember these are guidelines only and based on ideal conditions. If you do not charge your battery properly, or discharge the battery too deeply, this will significantly reduce the life of the battery.

## What make?

There are many manufacturers of AGM and Gel batteries, and like all goods, the quality can vary. A good starting place is to look at the Warranty. Any reputable manufacturer will guarantee their product for 12 months. If the supplier only offers you 3 or 6 months Warranty, treat it with caution. There are some 'cheap' batteries available, usually imported from the Far East, which are of very variable quality. If you end up having to replace your battery after 9 months or so, it is not such a 'bargain'. All our batteries are from UK suppliers and all carry a full 12 month Warranty.