

## North Yorkshire Electric Bikes Ltd



### **WHAT IS AN ELECTRIC BIKE?**

An Electric Bike (eBike), in very simple terms, is a bicycle that has a built in electric motor and rechargeable battery. The motor can be in the wheel hubs or, more recently, in the crank. As you pedal, the motor provides different levels of assistance which lets you travel much further, manage hills and headwinds with ease, and generally ride with much less effort than on a normal bike. (When you stop pedalling or apply the brakes the assistance stops.)

By Law, when a speed of 25 km/h (15.5 mph) is reached, the assistance ceases, but you can continue beyond this speed by pedalling & using your own effort (or when traveling downhill). When climbing steep hills, a combination of human and electrically powered assistance is required. There is a limit to how steep an incline an eBike can tackle on its own! Also, the distance that you can travel will vary depending on the battery capacity and how much effort you put in and how much you rely on the assistance from the eBike. There is now a choice of different performance systems & different sizes of battery are available depending on your own requirements (& budget). Batteries lock on for security and can be charged on or off your eBike in a few hours for a few pence (The better brands take less time to charge).

### **There are 2 distinct types of Electric Bike**

#### **eBikes with constant power delivery**

These eBikes cover the cheaper end of the market and are predominantly produced in China.

As you pedal, these eBikes give you a 'CONSTANT PUSH' depending on the level of assistance that you have selected. They **do not respond to how hard you pedal**, & only detect that the pedals are turning in order to provide the power at each level, You can pedal as hard or as gently as you want depending on the terrain & will need to push harder on the hills.

Until the end of 2015, some of these eBikes also had a THROTTLE (Now banned as in Europe, but stock that was imported before 2016 can still be sold).

We predominantly sold this type of eBike to people with serious health issues, as they could use the throttle to get home if they became too fatigued (as long as there was enough battery power left and no big hills!)

This system wastes a lot of battery power, results in only a small amount of exercise and can feel like it wants to 'run-away' at slower speeds!

#### **E-Bikes with variable (torque sensed) power delivery**

These eBikes are generally of a much better quality and predominantly produced in Europe. Anyone who can still ride a normal bike but is looking for extra help on the hills will find this type of eBike much more enjoyable.

eBikes with torque sensors detect the rotation **and also how hard you push the pedals**. The torque sensor measures the effort you apply and matches the power according to the level of assistance selected. (It effectively multiplies your effort to different degrees).

The best systems (Bosch, Shimano) usually have a crank drive motor for better hill climbing.

The experience is much more natural and feels like a normal bike (but with 'bionic' legs!).

Because the power is only provided 'on demand' and not continuously, there is a substantial increase in the range possible from the same capacity of battery when compared to an eBike without a torque sensor.

*Please contact us to discuss these differences in more detail.*

*It is very important to us that our customers do not purchase the wrong electric bike for their requirements.*