

Something that isn't mentioned often is the efficiency of a motor. What power are we talking about v
Efficiency is one factor that explains different performances of similarly specified ebikes. Ideally a lo
Peak Power – this is the maximum power output a motor can achieve for a few seconds. It is a bette
Position of the Motor

There are 2 commonly used drive positions for the motor on ebikes. You guessed it...there are pros
Why A Hub Motor?

With electric assisted and electric powered bicycles, scooters and motor cycles selling in the million
For electric bikes, the advantages of a hub motor are:

- 1.The motor is in a space that is not otherwise used in the conventional designs of bicycles.
- 2.The motor can be installed without significant changes in the frame or the ordinary configuration o
- 3.Hub motors are simple and self-contained, thus reducing overall cost of the vehicle by enabling th
- 4.The motors are sealed and mostly maintenance free.
- 5.The motor is directly attached to the driven wheel, improving efficiency.
- 6.The centre of gravity is relatively low, improving balance.
- 7.It looks nice!
- 8.If it needs to be serviced, repaired or replaced it can be easily accessed.
- 9.If it does need replacing it usually does not affect any other component.
- 10.With hub motors we can replace one hub motor with an updated version if the old one is no long
- 11.If you have a front hub motor then you can have a 2 wheel drive bicycle assuming you will provid

The Drawbacks of Hub Motors

For hub motors, the drawbacks are:

- 1.The cost is higher because the motor is more complicated than other kinds of electric motors.
- 2.Because the motor is sealed against water and dirt, getting rid of heat that the motor generates w
- 3.The wheel is heavier with the addition of the motor...by as little as 2.3Kg
- 4.There are hundreds of hub motor manufacturers in China and all of the motors look the same but

Why a Crank Drive Motor?

Since Panasonic and Yamaha put their considerable commercial weightiness behind this type of dri
Despite the performance drawbacks crank drive systems can be the 'nicest' systems to ride.

Advantages of a crank drive system:

- 1.Standard lower cost motor design can be used with a single external drive shaft and a fanned hea
- 2.The motor can be smaller because the fanned casing allows for heat to be more effectively releas
- 3.The motor is generally in or near the bottom bracket so the weight is low
- 4.The motor can be kept near its optimal operating speed by using the bikes gearing.
- 5.By using the bikes gearing the bike can provide more effective assistance on hills than same pow

6. Because of the low power levels used the systems tend to be reliable.

Disadvantages of a crank drive system:

1. The units are always sealed and contain almost all of the components, motor, controller, and torque sensor.
2. The systems are proprietary and if parts become unavailable it will be very expensive to adapt and modify.
3. The output power and therefore performance is limited by the strength of the chain and the sprocket.
4. There will be increased maintenance on the drive chain, including all cogs and sprocket.