

## Drive Unit

1. Center mount unit  
(bottom bracket motor)
2. Support up to 25km/h
3. Motor
  - Rated power: 250W
  - Peak torque: 80 Nm
  - Continuous maximum torque: 70 Nm
  - Direct transmission of the motor power to the crankshaft
4. Sensors
  - Torque sensor, speed sensor, crank sensor
5. Weight
  - 3.5kg (excl. Drive Sprocket)



## ◆ Concept

Main concept is “smooth and powerful”.

Following four points are important.

1. Compact and light weight
2. High power
3. Matching with a vehicle design
4. Assistant control united with the Europe taste

## ◆ Features

### The compact, light weight center mount unit

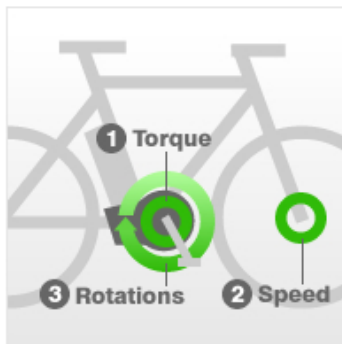
There are two main advantages in center mount type units. First, the gears originally equipped to the bicycle can be utilized as a part of e-Bike systems, allowing for optimal motor performance.

Second is weight distribution. Centralization of mass leads to a natural weight balance while riding and while stopped, retaining the superior weight distribution of a bicycle.

We have succeeded in developing one of the world's smallest and lightest drive units. This involves the direct transmission of the motor power to the crankshaft, providing for a minimal exterior design.

The high-power motor has ample amounts of low-down torque, making electrical assist on hills and gravel roads – under the hardest of conditions - extremely powerful.

### The triple sensor system



The "triple sensor" system is what holds the product concept of "smooth and powerful" in place. The three sensors are the: 1. a torque sensor that detects pedaling power, 2. a speed sensor that detects the bicycle's speed, and 3. a crank sensor that detects the number of rotations through pedaling. By equipping the three sensors to the unit, the rider is supported by continuous assistance under every riding condition. The constant assist is what allows the "smooth and powerful" concept to come alive during the ride.

The torque sensor has great response, resulting in an optimal assist timing through fine-tuning the motor control.

### Localization for the European Market

The PW series is a new system that was developed for a perfect European market fit. With a strong focus on the "organic" bicycling feel, the end product is a natural ride for sport-riding bicycle enthusiasts and every-day riders alike.

## Others

YAMAHA has other components.



RC battery  
(500Wh)



DT battery  
(400Wh)



Charge  
r



LCD multi function  
Drive Controller



LED 3-way digital  
display main switch

MAHA PWseries



Thank you!