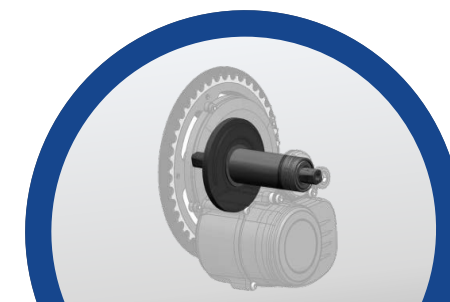


新一代
New Generation

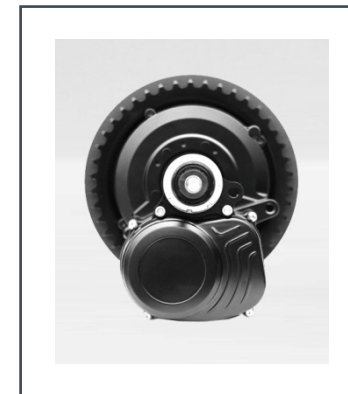
中置电机 TSDZ2B

MID MOTOR

带力矩传感器
With Torque Sensor



外形 Shape



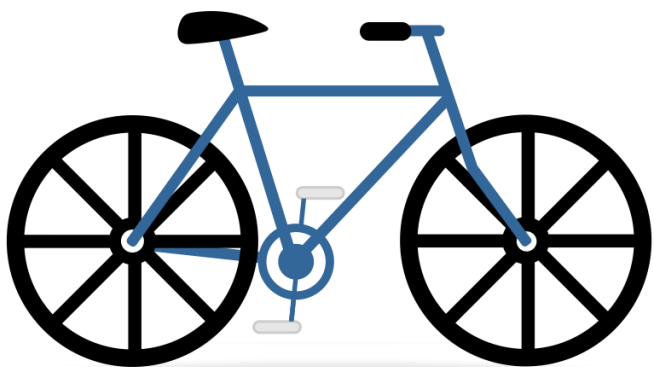
TSDZ2B

适用范围 Application

TSDZ2B 电机是把普通自行车变为电助力自行车的魔法师，且**电机内置力矩传感器**，通过增加**带力矩传感器的TSDZ2B驱动系统**，带来人车合一的骑行体验，更舒适，耗电量少，续航里程远。

A magician of mid drive system with **a torque sensor integrated** can convert your ordinary bicycle into an electric power assisted bicycle, which can provide stable power and bring comfortable riding. The motor **output according to the pedaling force**, depending on which it brings in-one riding experience from you and your e-bike and improve the utilization of power then longer the battery life.

Convert Your Bike To An E-bike



自行车 Bike

+



TSDZ2B



电助力自行车 eBike

应用场景Application -- TSDZ2B on eBike



TSDZ2B Drive System

TSDZ2B 驱动系统



驱动配件 Drive Accessories



产品特点 Product Feature



TSDZ2B

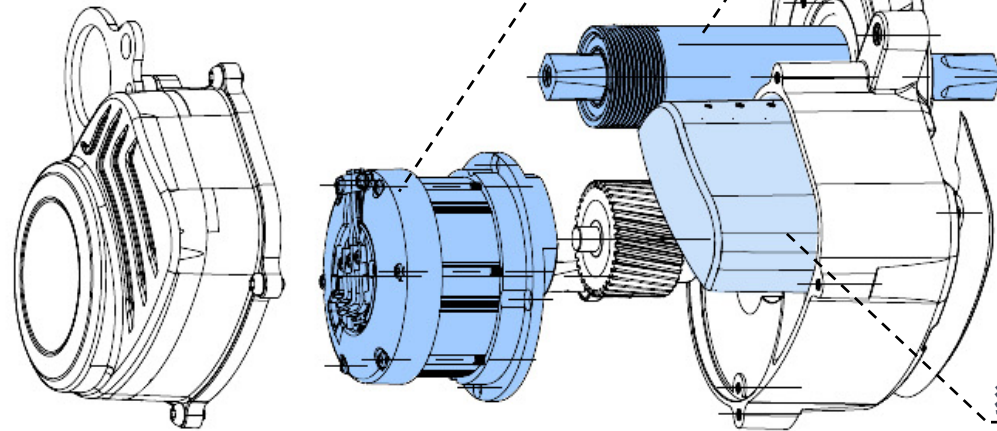
- 安装方便, 适用于大多数普通自行车;
Easy installation, applicable for most normal bicycles
- 最大扭矩80N.m, 爬坡力强劲;
Max Torque about 80N.m, strong ramp-climbing capability
- 内置控制器+**力矩传感器**(真正的双侧扭矩);
Internal controller + **axial torque sensor** (real two-side torque)
- 体积小, 外形美观, 重量约3.6公斤;
Compact size and elegant shape, weight about 3.6kg
- 骑行舒适, 效率高, 耗电量少, 续航里程远;
Comfortable ride, high efficiency, less battery consumption and longer range
- 安全可靠, 性能优良;
Safe, reliable and excellent performance

部件亮点 一

独立式电机 Independent Motor

模块化设计，单独测试确保性能，售后维修不仅快捷，而且无需测试即可达到出厂电性能。

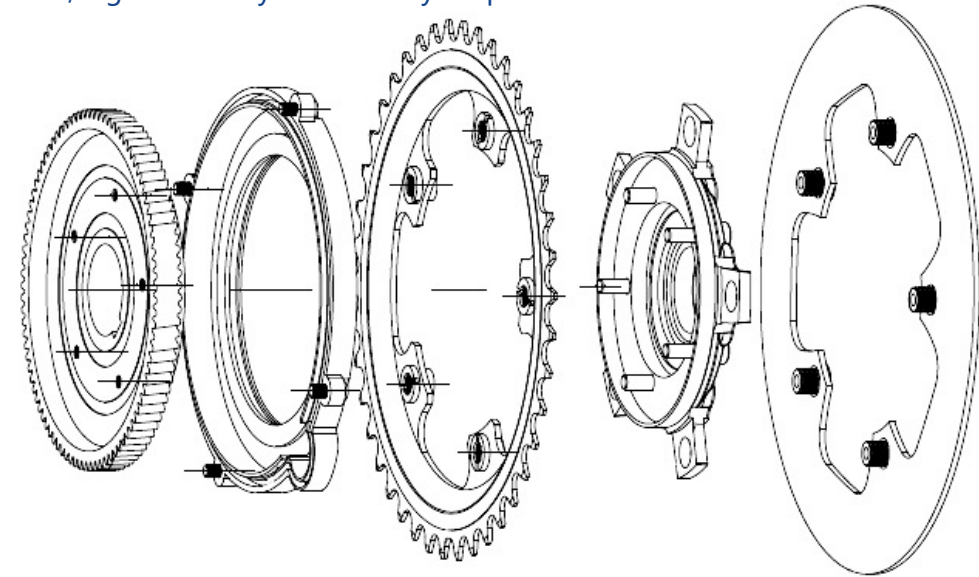
Modular design, independent testing to assure quality and performance. Replacing is easy/fast, back to it' s original factory condition.



力矩传感器 Torque Sensor

电阻应变检测扭力信号，数字无线传输,高灵敏度和高稳定度输出。

Resister strain technology to check torque signal, digital wireless data transfer, high sensitivity and stability output.



独立式控制器 Independent Controller

模块化紧凑设计，合成踏频传感器，自带外壳，灌胶防水，没有中间转接插件, 可靠性高。

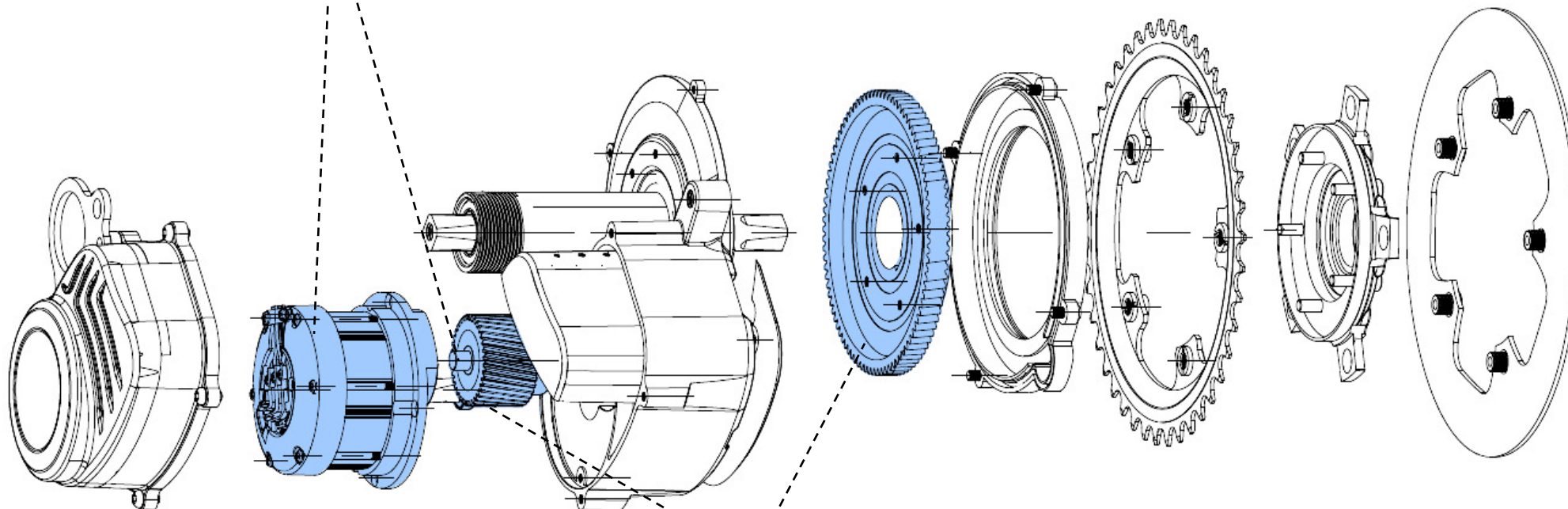
Compact modular design, Synthetic step frequency sensor, outer shell, water-proofing glue, no intermediate connector for higher reliability.

部件亮点 二

一级减速 (钢齿轮+尼龙齿轮) Deceleration: Level 1 (Steel and nylon gears)

深沟球轴承 + 尼龙齿轮与减速轴为一体

Deep groove ball bearing + Reducer kit is integral



二级减速 (钢齿轮+钢齿轮) Deceleration: Level 2 (Steel+Steel)

小齿材料: 20CrMo

大齿材料: 42CrMo

Reduction gear material: 20CrMo

Clutch gear material: 42CrMo

最好的电助力自行车就是将你已有的自行车加一个配有内置力矩传感器的中置驱动系统

The **best e-bikes** are the bike your already have **plus mid drive system with torque sensor integrated.**



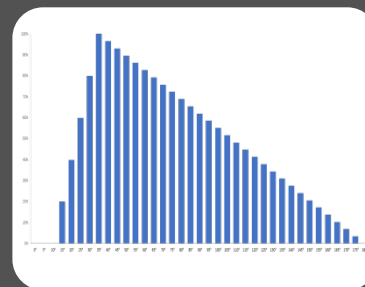
①

- 电机位置居中，平衡整车重量
- Motor weight in the center helps to balance the total weight of e-bike



②

- 保持自行车原有结构，骑行适应快
- Keep the original bike structure you already get used to



③

- 电机扭力输出根据踏板力量倍增
- The torque output of TSDZ2B motor is multiplied according to the pedal force

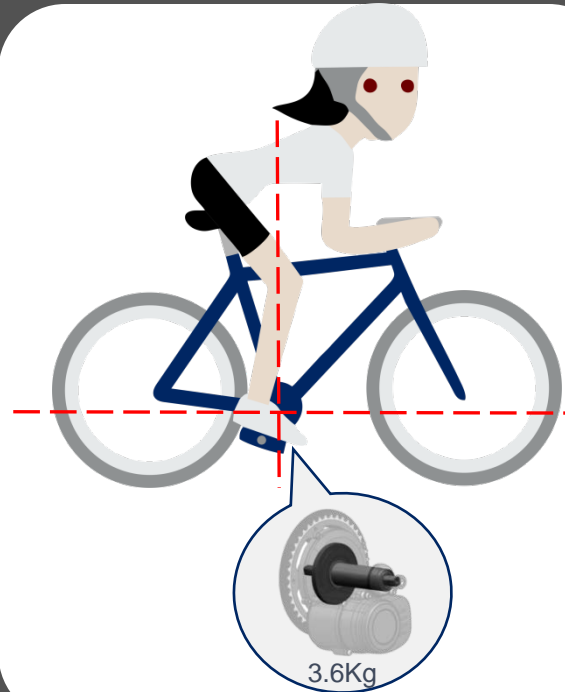


④

- 无动力时电机阻力甚微，电机存在感低
- You will even ignore the motor when there's no power

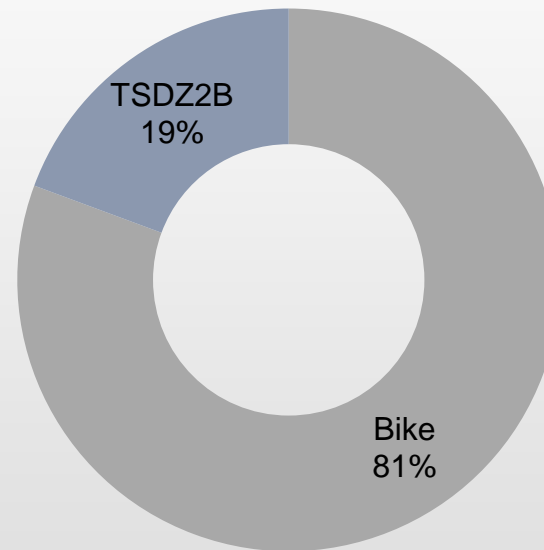
① 中置电机位置居中，平衡整车重量

Mid Motor Mounted In The Center To Make The E-bike More Uniform

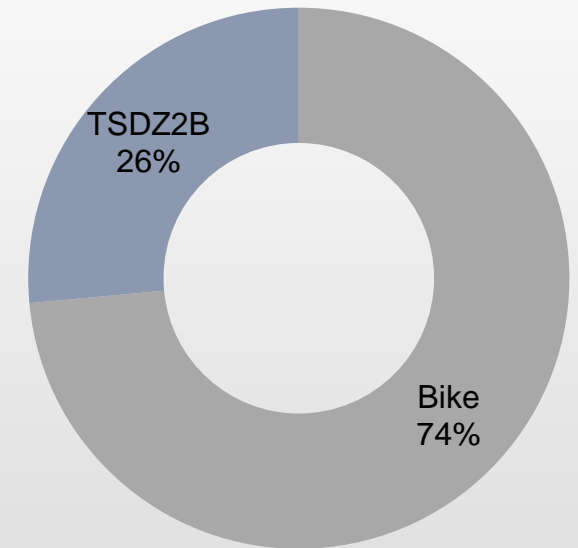


● TSDZ2B与E-bike自重占比图

TSDZ2B在E-bike自重占比 (最小)



TSDZ2B在E-bike中自重占比 (最大)



一辆自行车的重量一般在10-15kg左右，驱动电机（含前置、中置、后置）的重量在2-4kg左右，TSDZ2B自重3.6kg，占整车的19-26%，而它位于**整个车的中心**，能使**整个车的重量更均匀**；

The weight of a bike is generally about 10-15kg, and the weight of the drive motor is about 2-4kg(include hub motor, mid motor). The weight of TSDZ2B is 3.6Kg which occupies 19-26% of the bike, and it is **located in the center of the bike**, which can make the weight of **the e-bike more uniform**;

② 不改变原车结构，适用多种车型

Keep The Original Structure Of Your Bike and available for many kinds of bikes.

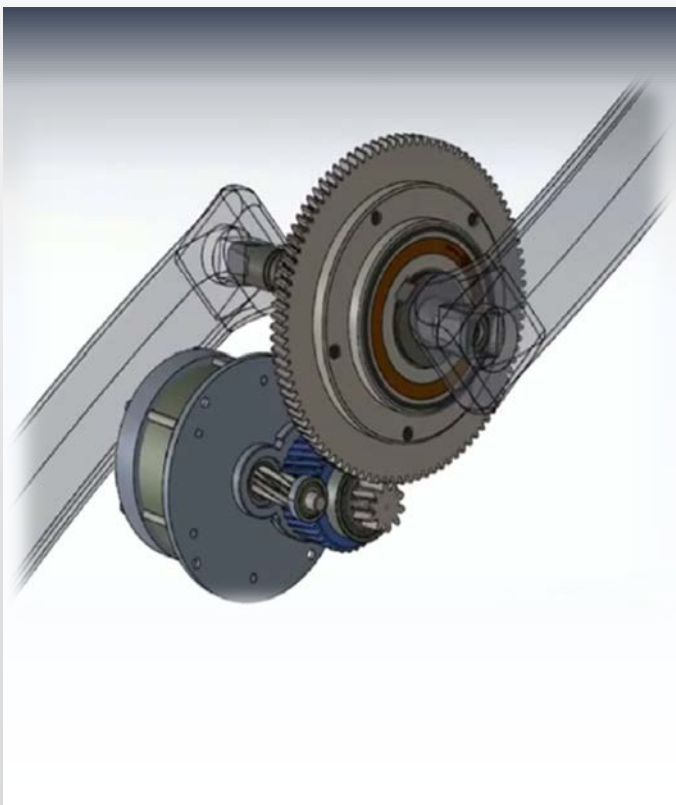
最好的电助力自行车就是将你已有的自行车加一个配有内置力矩传感器的中置驱动系统。TSDZ2B 没有改变自行车的原始结构，你对原来的自行车已经了解和适应了；

The best e-bikes are the bikes you already have plus mid drive system with torque sensor integrated. TSDZ2B motor is easy to mount on your own bike which won't modify the original structure of the bike you already know and get used to.

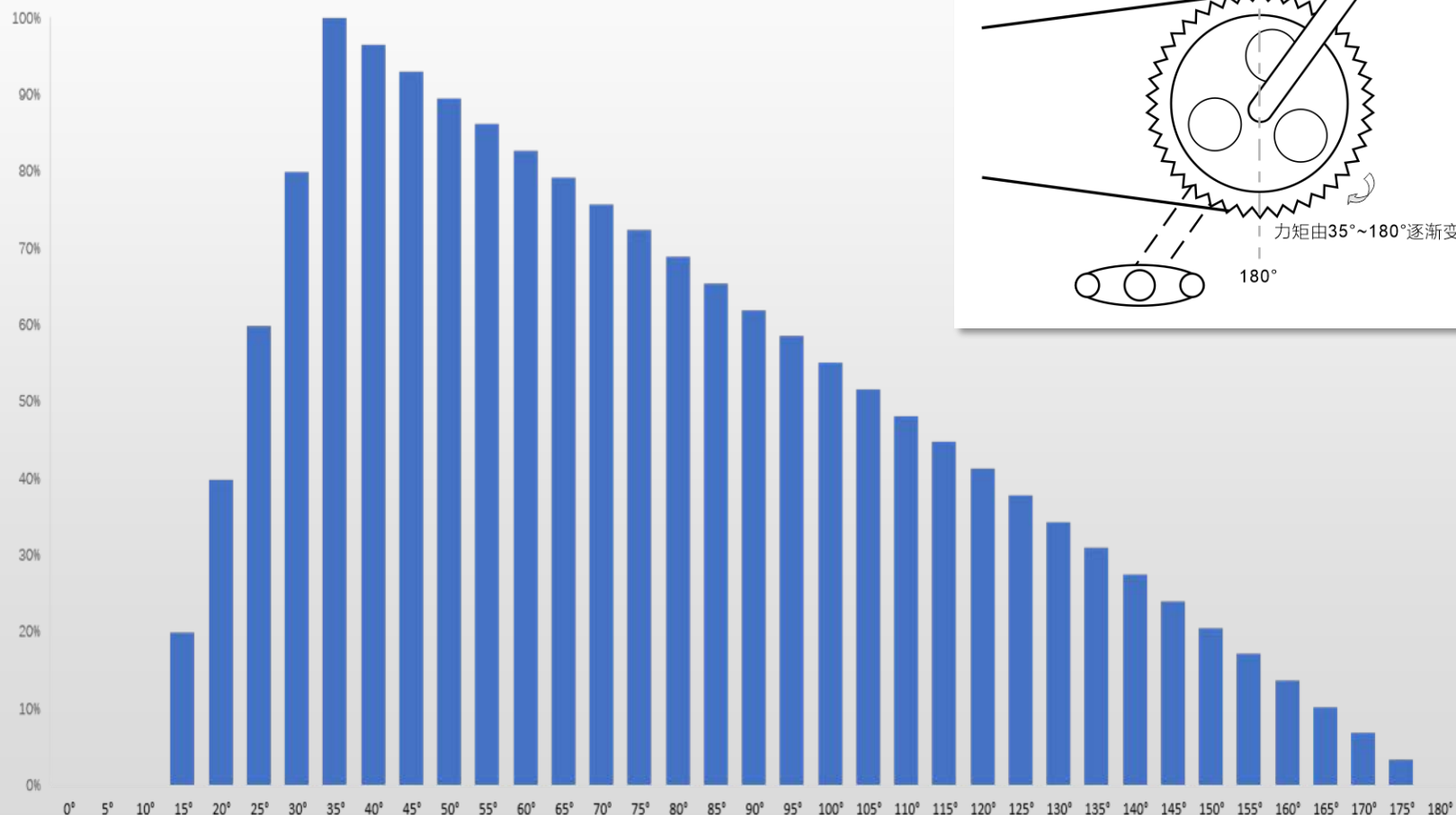


③ TSDZ2B电机的扭力输出 根据脚踏力量倍增

The torque output of TSDZ2B motor is multiplied according to the pedal force

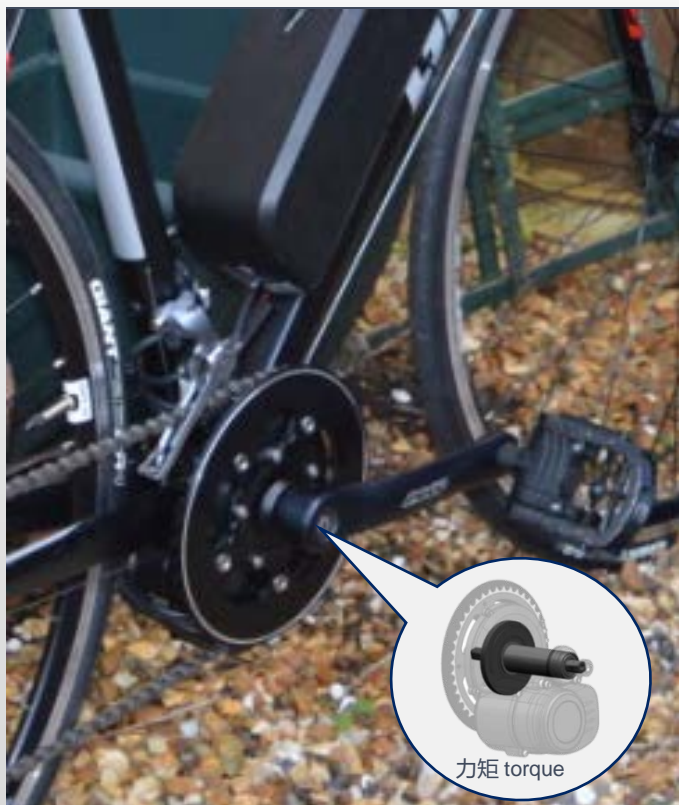


● 踏板角度与力矩关系比例 Ratio of Pedaling Angle to Torque



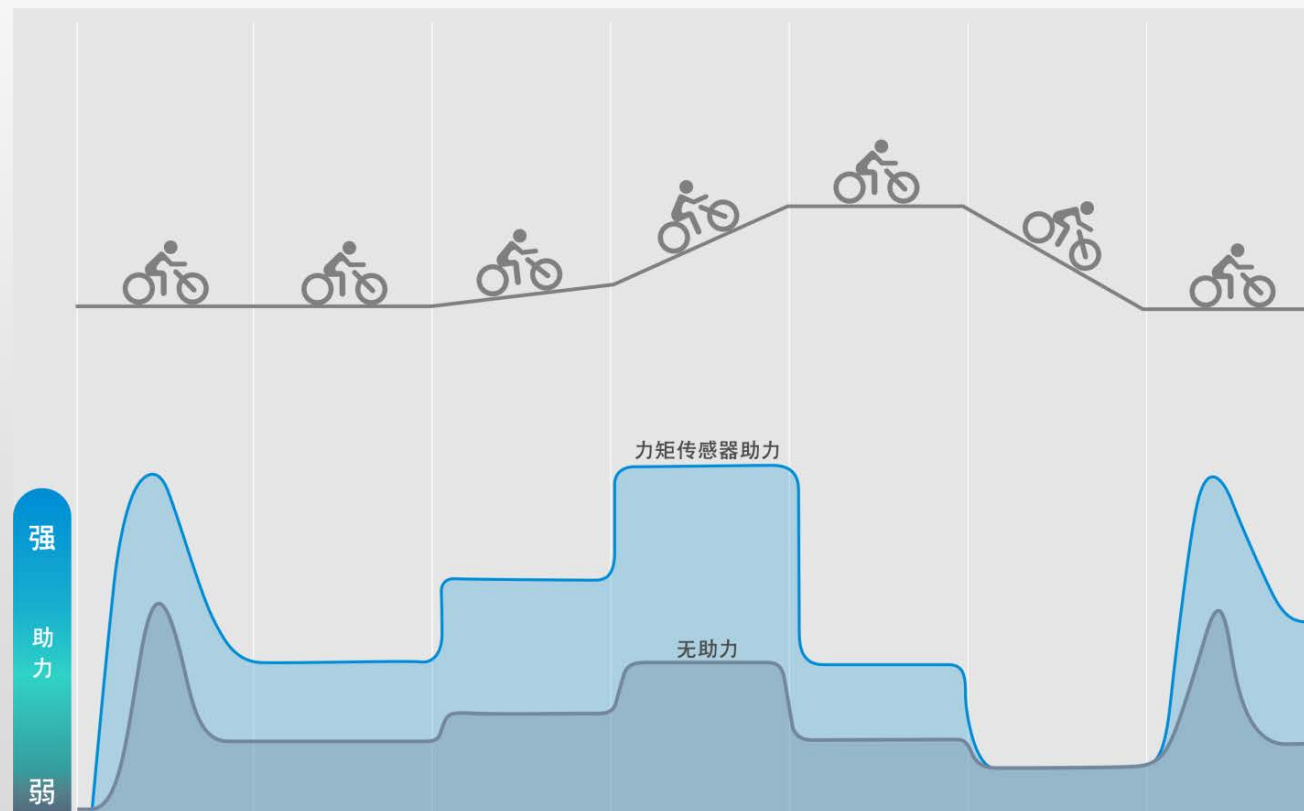
③ 带力矩的助力驱动系统的核心表现

Core Performance Of Power Assisted Drive System With Torque Sensor



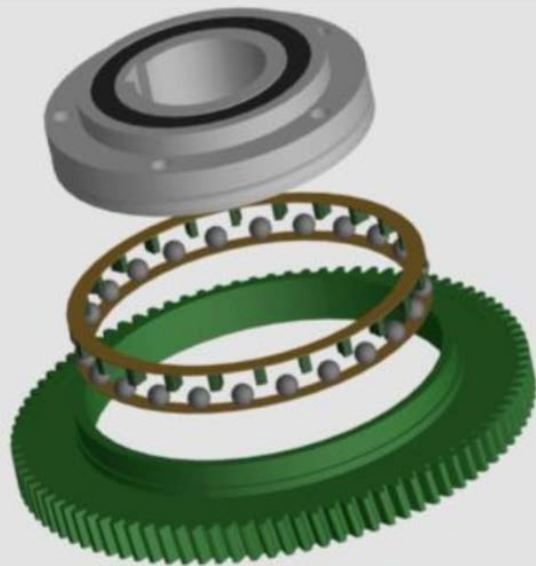
- 力矩传感器的检测精度和控制系统的反应速度能让力矩输出波形完美接近人力输出的力矩波形，让电机力总是随人力线性变化。

The combination of the detection accuracy of the torque sensor and the reaction speed of the control system makes the torque output waveform perfectly close to the torque waveform outputted by human power, and makes the motor force always change linearly with human power.



④ 新型双离合齿轮完美的降低了电机阻力

Core Performance Of Power Assisted Drive System With Torque Sensor



- 双离合，在无电助力时，阻力小，骑行感受更轻

Your e-bike can be ridden as a normal bike when the motor out of power thanks to the new bidirectional free-wheeling clutch instead of the one-way clutch to reduce the drag resistance from motor.



技术参数 Parameters

型号	TSDZ2B
功率 Rated Power	250W/350W
额定电压 Rated Voltage	24V/36V/48V
最大扭矩 Max Torque	80 N.m
自重 Weight	3.6kg
助力比 Power Assist Ratio	36%~300%
减速比 Reduction Ratio	41
传感器类型 Pedal Sensor	速度 & 力矩传感器 Speed & Torque Integrated
前后灯控制 Light Drive Capacity	6V/3W
认证 Certification	CE/ROHS/EN 15194



力矩传感器与速度传感器助力输出对比

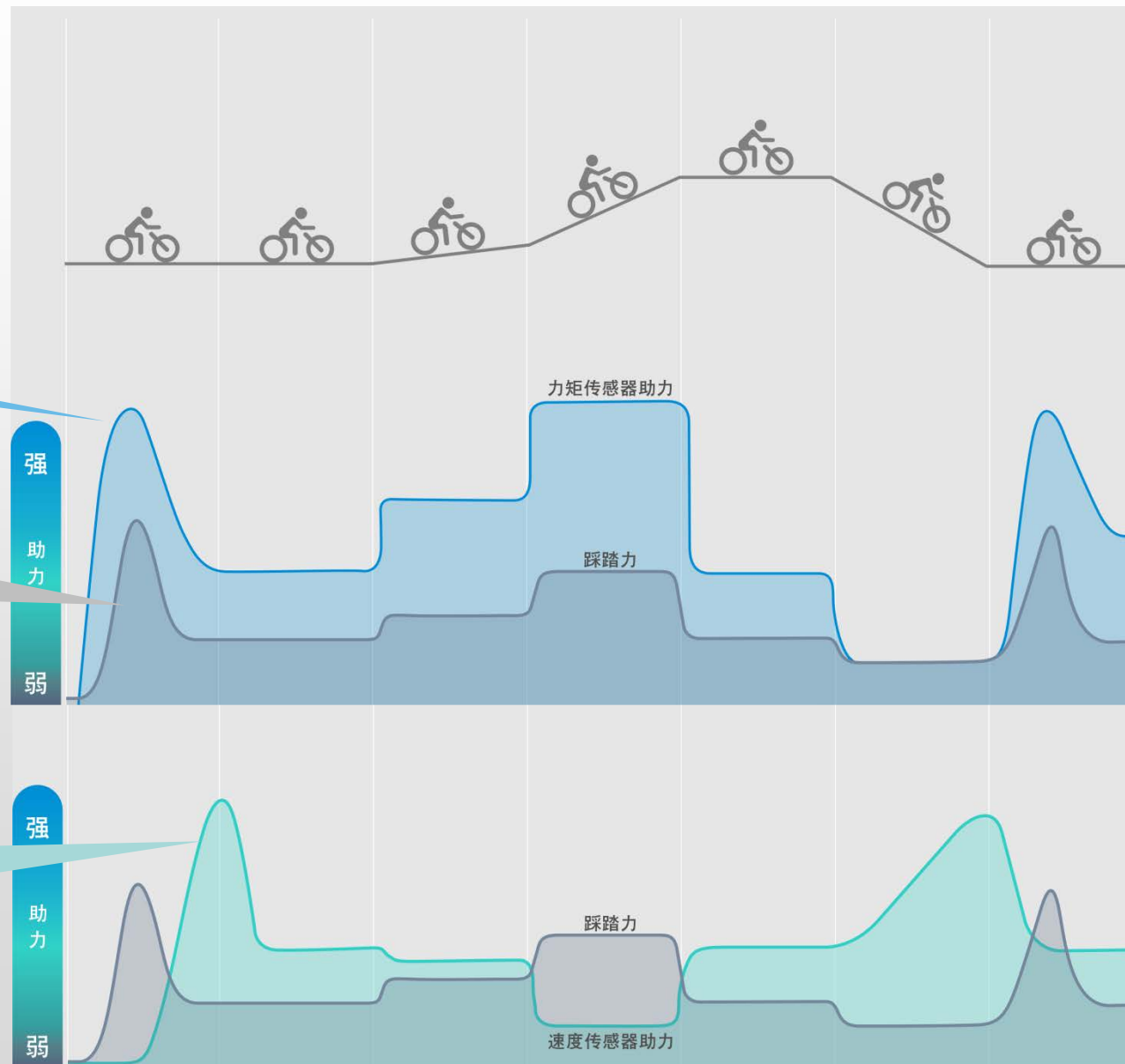
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力矩传感器与速度传感器助力输出对比

力矩传感器助力输出完美贴合踩踏力

踩踏力

速度传感器助力输出根据车速，助力输出曲线与踩踏力不成线性关系



适用车辆规格 Available Bike

TSDZ2B 适用普通自行车五通管尺寸:

TSDZ2B Suitable for bicycle BB shaft size:

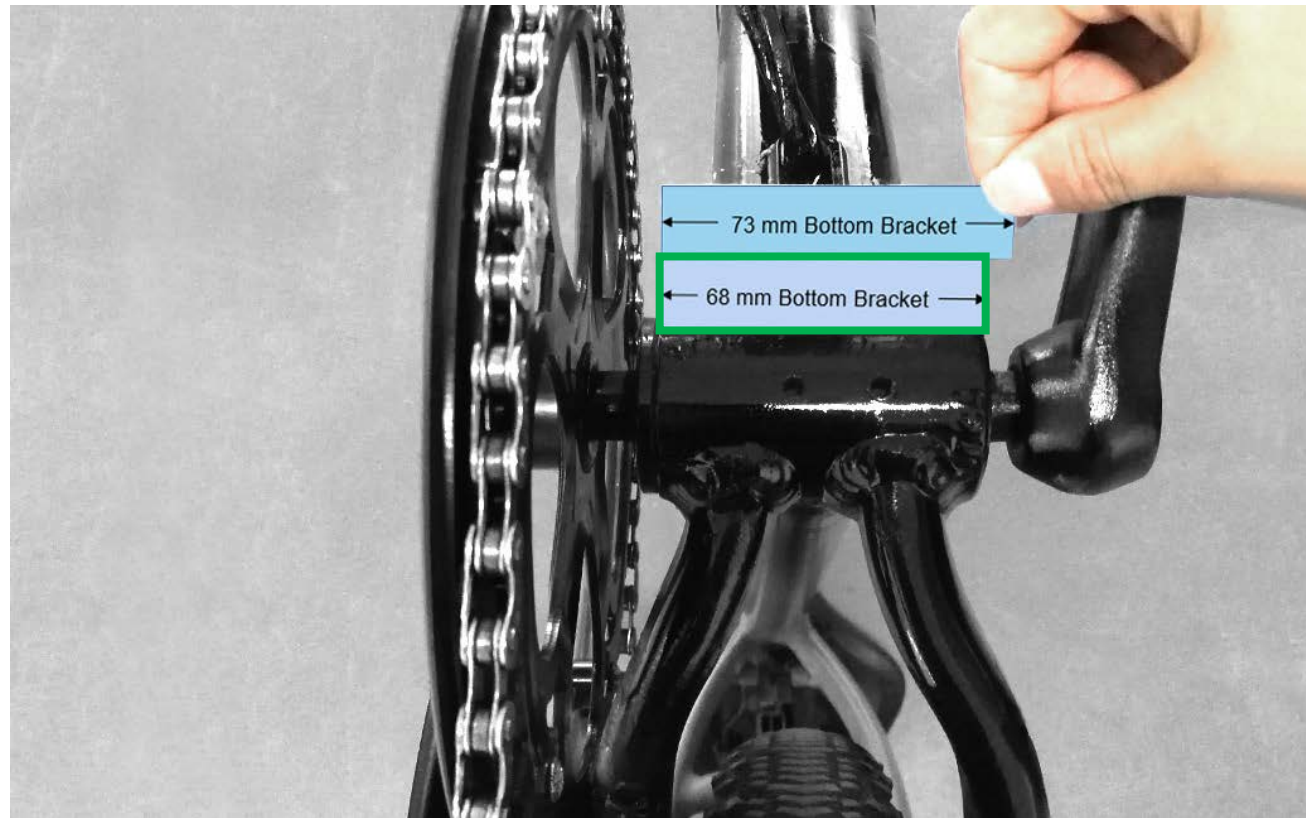
68mm , 73mm

← 73 mm 五通管 →

← 68 mm 五通管 →

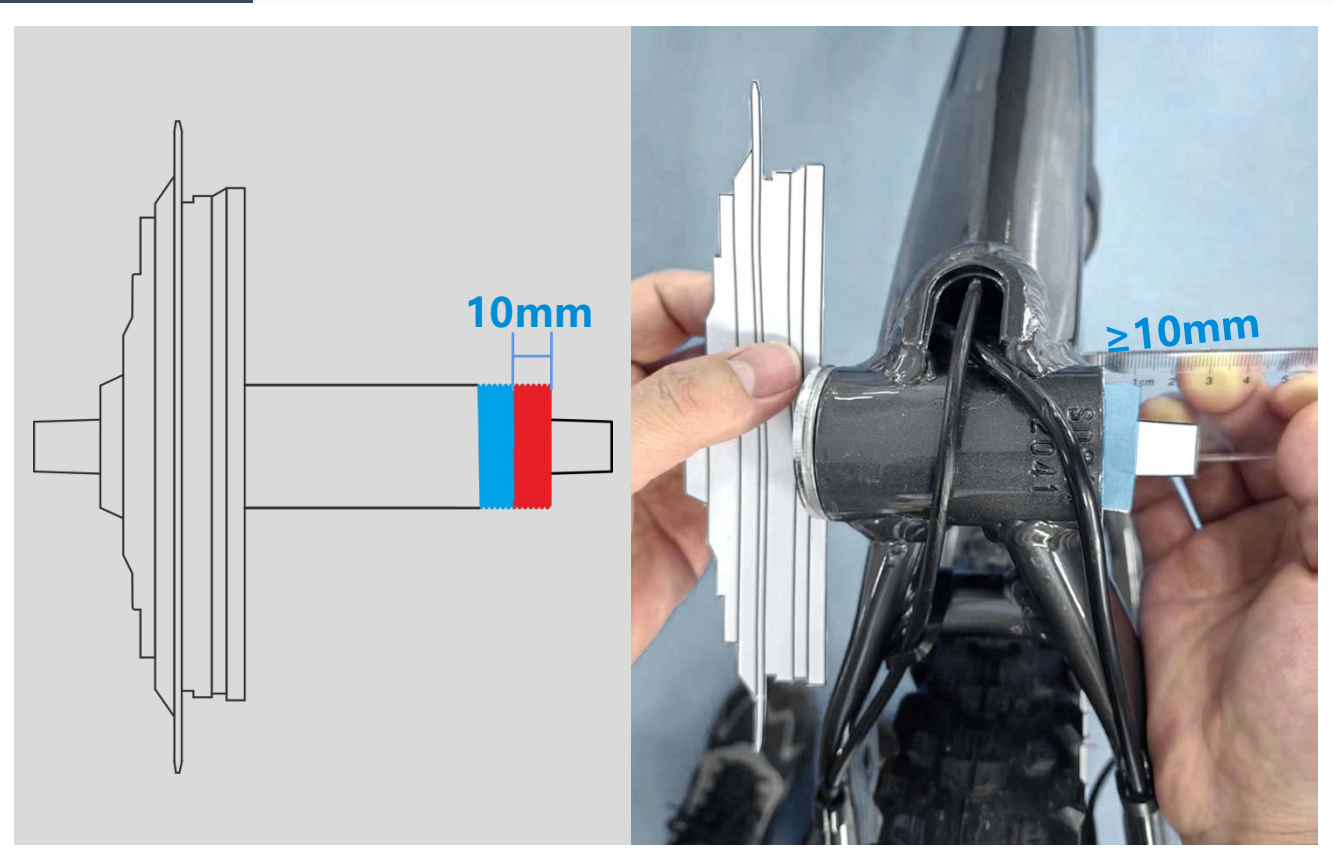
← 73 mm Bottom Bracket →

← 68 mm Bottom Bracket →



适用车辆规格 Available Bike

TSDZ2B 适用普通自行车，套入五通管后，轴套露出长度需 $\geq 10\text{mm}$ 。



TSDZ2B安装准备清单 Preparation List for Installing Motor TSDZ2B



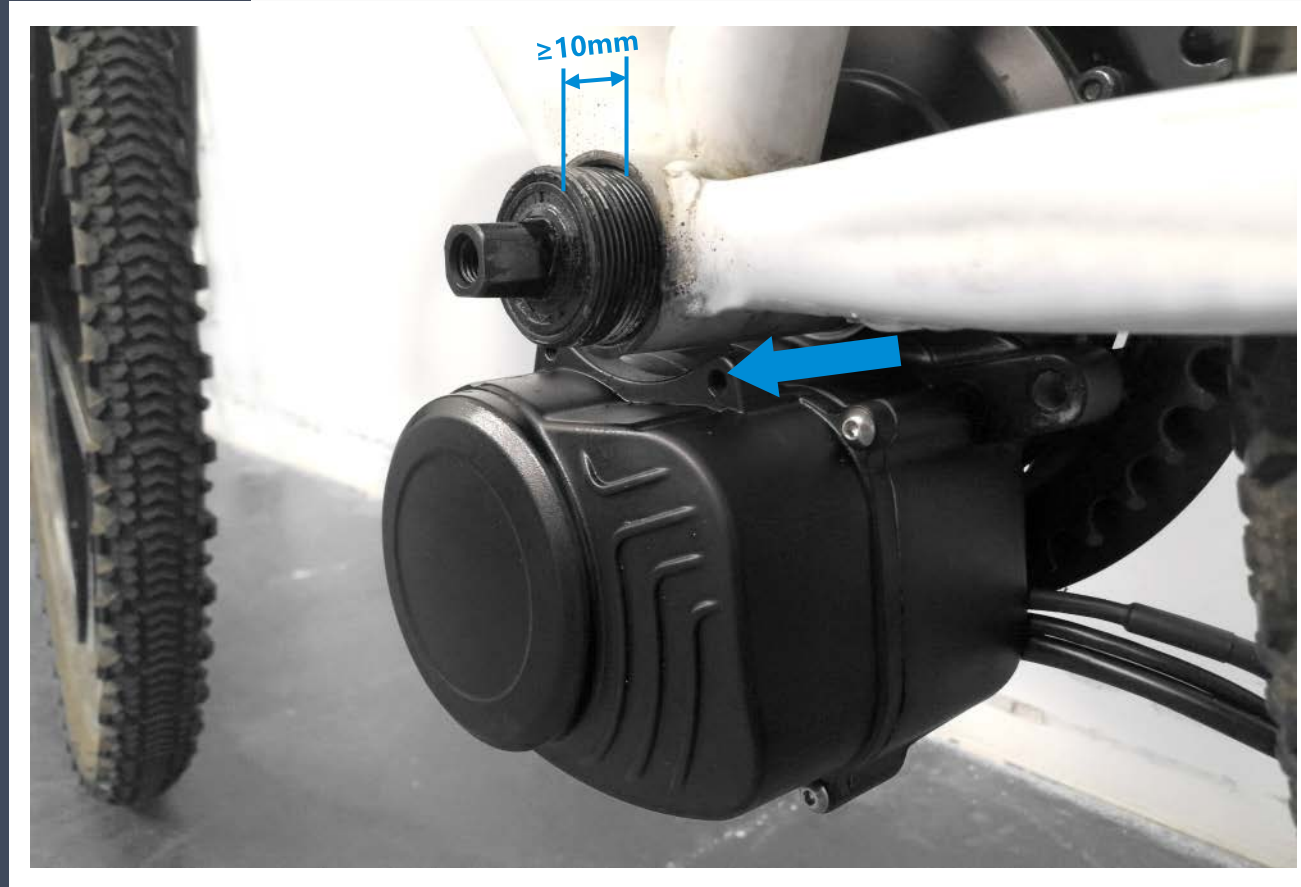
电机安装 Motor Insatllation

步骤一

电机中轴套依箭头方向推入自行车五通管，五通管的长度为68/73mm，中轴套露出长度需 $\geq 10\text{mm}$ 。

Step 1

Push Motor BB shaft inside BB tube(68/73mm) as per arrow direction,the exposed shaft length on the left should be no less than 10mm.



电机安装特别注意 Attention for motor installation

电机装入五通管后，如图位置出现电机和车架干涉，则可添加垫片以使电机与车架不相碰。

After inserting the motor, if the motor flange touches the bike frame, please add washers to avoid the touching.



机械碰撞可能发生在蓝色圆圈的位置
Mechanical collision might happened at the blue circled position

请根据需要添加1~3个垫圈，至电机法兰与车架正好不相碰。
Adding washers here to avoid touching between motor and bike frame, you may need 1~3 pcs of washers.



根据需要添加1~3个垫圈 Adding 1~3 washers on demand



1.5mm



2.5mm

电机安装 Motor Installation

步骤二

安装加强板

- 2.1 将螺丝插入加强板和铝垫片;
- 2.2 加强板套在五通上;
- 2.3 M5 x 20的内六角螺钉与中置电机锁紧;

Step 2

Install Fixing Plate

- 2.1 Put fixing plate onto BB shaft.
- 2.2 Insert the couple of screws through fixing plate and washers.
- 2.3 Fix the motor by tightening the screw of M5 x 20 .



电机安装 Motor Insatllation

步骤三

将M33.5锁紧螺母丝固定在五通上，但不要完全拧紧。

Step 3

Fix M33.5 center locking nut onto BB shaft, but do not tighten it completely.



将M33.5锁紧螺母丝固定在五通上，但不要完全拧紧
Fix M33.5 center locking nut onto BB shaft, but do not tighten it completely.

电机安装 Motor Insatllation

步骤四

将固定块安装车架上，勿完全拧紧固定块上的螺丝。

Step 4

Install the fixed block on the frame, but do not tighten the screws completely.



电机安装 Motor Insatllation

步骤五

将M33.5锁紧螺母用专用工具拧紧，扭力
50~60N.m。

Step 5

Tighten the M33.5 nut to lock the motor on the
BB shaft, using special wrench with locking force
of 50~60Nm.



使用专用工具将M33.5螺丝锁紧 (扭力50~60N.m)
Fix M33.5 nut on the BB shaft with special wrench (50~60N.m)

电机安装 Motor Insatllation

步骤六

拧紧加强板上的两颗固定螺丝, 使电机完全固定。

Step 6

Tighten two screws on the fixing plate so as to fix the motor completely.



电机安装 Motor Insatllation

步骤七

固定电机与车架

7.1 锁紧M8 x 50的圆头螺钉。

7.2 锁紧连接固定块和中置电机的螺钉M8 x 40。

Step 7

Lock motor on the frame

7.1 Tighten the screw completely so as to fix the block completely.

7.2 Tighten the screw of M8 x 40 on fixing block to lock the motor completely



7.1 锁紧M8 x 50的圆头螺钉, 使固定块完全锁紧。

Tighten the screw completely so as to fix the block completely.

7.2 锁紧链接固定块和中置电机主体螺丝M8×40。

Tighten the screw of M8 x 40 on fixing block to lock the motor completely.

电机安装 Motor Insatllation

步骤八

安装曲柄

用M8 x 14内六角螺钉安装左右曲柄，锁紧扭力为40N.m。

Step 8

Crank Installation

Install crank arm with M8 x 14 Hexagon screws and tighten with force of 40N.m .

使用专用工具将螺钉锁紧 (扭力40N.m)
Tighten the screws by Hexagon socket of 40N.m



电机安装视频 Motor Installation Video

电机标准安装 Standard Installation



E-Bike Motor

标准安装
Standard Installation
Video




Click Click

电机加垫片安装 Installation + Washers




E-Bike Motor

加垫片安装
Installation + Washes
Video




Click Click

电机配件更换视频 Motor parts Change Video

离合器大齿轮更换 Clutch Gear Replacement



离合器大齿轮更换视频
Clutch Gear Replacement Video

»



Click Click

减速齿轮更换 Reduction Gear Replacement



减速齿轮更换视频
Reduction Gear Replacement Video

»



Click Click