



## TECHNICAL SPECIFICATION

RM G020.250.DC

Name	RM G020.250.DCTechnical Specification	Date	20170405
No.	JS--002	Version	V1.1
Prepared by	Gary Xu	Update Date	

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**1. Introduction**

**1.1. Model**

RM G020.250.DC;

**1.2 Characteristics and Scope of Application**

This Rear-drive motor is compatible with a Disc-brake and has a rated power of 250W. This motor is suitable for trekking bikes and mountain bikes.

**1.3 Appearance**

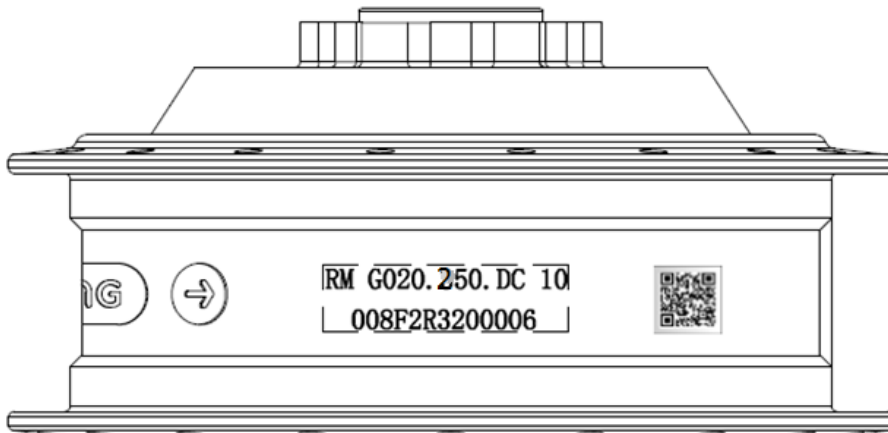


Figure 1-1 Motor Appearance

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#### 1.4 Numbering Rule

The nameplate is engraved on the shell, showing such information as follows:



RM G020.250.DC:Motor model;

10: Coiling cycles 10T;

008: connector type G9.1,cable length 250mm;

F2: Inspection device code;

R320: Production date;

0006: SN.

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2. Product Description

2.1 Technical Information

2.1.1 Outline Drawing and Technical Parameters

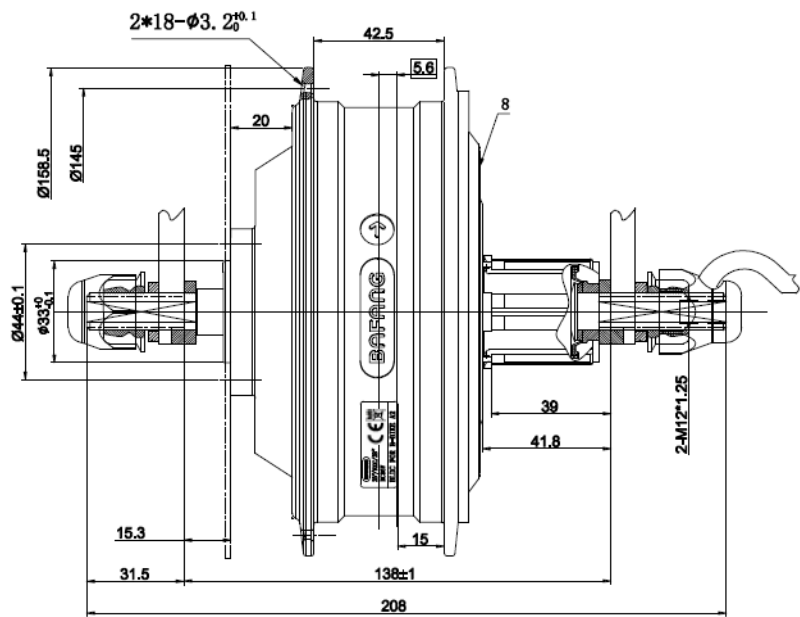


Figure 2-1 Motor Outline Drawing

- A. Thelengthofaxle:208mm;Installationwidth:138mm;
- B. Thelengthofcable:250mm

Notes:We keep the standard cable length here,so you can order the extension

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cable separately if necessary,but the cost is additional.

### 2.1.2 Surface Treatment

Black orsliver paint;

### 2.1.3 Motor Cable and CableTerminals

The cable length and cable terminals can be customized when this information is indicated on the purchase order;

#### A.The definition for each wire:

Name	Power cable			Signal cable		
Cable	A	1.5mm <sup>2</sup>	yellow	Ha	0.2mm <sup>2</sup>	blue
	B	1.5mm <sup>2</sup>	green	Hb	0.2mm <sup>2</sup>	green
	C	1.5mm <sup>2</sup>	blue	Hc	0.2mm <sup>2</sup>	yellow
				hall+	0.2mm <sup>2</sup>	red
				hall-	0.2mm <sup>2</sup>	black
				Speed signal	0.2mm <sup>2</sup>	white

#### B.Water-proof Connector options



**Notes:**Pls remark the expected connector type in the order.

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#### 2.1.4 RotationDirection

Seeing the motor from the cable side, the motor rotates clockwise when the motor is powered on; when the motor is not powered on, clockwise direction is the running direction of the wheel.

#### 2.1.5 Main technical parameters(Ambient temperature: -25℃~45℃)

**A.Magnet Poles 20;**

**B.Reduction Ratio 1:5; C.Parameter**

**table as below:**

Voltage DC36V		Current limit			limit speed: 25 Km/h		load weight: 75Kg	
wheel size (inch)	out put power (W)	current with no load (A)	rotating speed with no load (r/min)	rated speed (r/min)	rated current (A)	torque (N.m)	efficiency (%)	PAS
20	140	〈1.4	300±8	280±8	〈8.6	〉 5.6	≥80	1:1
	160	〈1.4	300±8	275±8	〈9.5	〉 6.8	≥80	1:1
	180	〈1.4	300±8	270±8	〈10	〉 8.8	≥80	1:1
26	140	〈1.25	245±8	215±8	〈8.2	〉 7	≥80	1:1
	160	〈1.25	245±8	210±8	〈9.3	〉 8	≥80	1:1
	180	〈1.25	245±8	205±8	〈10	〉 9	≥80	1:1
28	140	〈1.0	175±8	175±8	〈7.8	〉 7.6	≥80	1:1
	160	〈1.0	175±8	170±8	〈9	〉 9	≥80	1:1
	180	〈1.0	175±8	165±8	〈10	〉 10.8	≥80	1:1

**D. IP-Code IP 65.**

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## 2.2 Motor Corrosion Resistance

The motor has passed a salt spray test following the Standard GB/ T2423.17. The test was done in a salt box whose internal temperature is set to 35.5 °C. The other test conditions include 5% NaCl solution, a 37.5 °C saturated barrel temperature, and continuous spraying for 96 hours. After the test, there is no visible corrosion or water seepage in the motor which meets the Standard's requirement;

## 2.3 Advantages

- ① Compatible with Disc brake and multiple speeds freewheel;
- ② Brushless,longlife (bearing) ,maintenance-free;
- ③ Compact,light,powerful;
- ④ Super starting performance,No Hysteresis damping losses,Super gradeability;
- ⑤ No spark,No EMI;
- ⑥ High efficiency,low consumption;
- ⑦ High performance-cost ratio;
- ⑧ High IP grade;
- ⑨ Integrated RPM inductive magnet 1 and 6 for option;

## 2.4 Precautions

- 1) The motor equipped Pedelec should be parked in a ventilated and dry warehouse, not a damp and acid-base environment, nor coexist with



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magnetic materials;

- 2) The motor should not work overload for long time;
- 3) The product is designed to be fully water-proof so as to withstand wet weather riding conditions. However, do not deliberately immerse it in water. Do not clean the Pedelec using a high-pressure cleaner.

2.5 Operation Environment

The motor runs normally under the following environment:

- (2) Ambient temperature: ( -25~+55 ) °C
- (2) Relative humidity: (15~95)%RH
- (3) The elevation does not exceed 1500m or the atmospheric pressure is within a range of 86~106 Pa
- (4)There is no serious corrosive gas or media that affect the electrical insulation properties in the environment.

2.6 Matching Product Recommendation

2.6.1 Accessory:

- 1) 2 pcs Dacromet stoppers;
- 2) 2pcs Dacromet flange nut M12X1.25;
- 3) 2pcs Dacromet bush 4mm;
- 4) 2pcs Nylon caps.

2.6.2 Recommended accessory

- 1) Brake disc: ≥ 160mm;
- 2) Multiple speeds freewheel:6 speeds recommended



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- 3) Rim:26-inch, rim width: 1.75 to 2.125 (recommended model: HF026)  
700C, rim width: 1.75 to 2.125 (recommended model: HF026)  
28 inch, rim width: 1.75 to 2.125 (recommended model: HF026)

- 4) Recommended Spoke Size: 13G \* 36H

A. spoke length (26-inch wheel): 225mm

B. spoke length (700C wheel): 254mm

- 5) Recommended tyre: 26 inch /700C/28inch × 1.75~2.125

- 6) Recommended battery: a portable lithium battery (see configuration Table )

**Configuration table**

<b>Motor rated power W</b>	<b>Battery capacity A.h</b>
36V 180W	10,12
36V 250W	12,14
48V 250W	10,12
48V 350W	17,20
48V 500W	24,32

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### 3. Guarantee

Suzhou Bafang Motor Science-Technology Co., Ltd (hereinafter referred to as the "Bafang Motor") guarantees: During the warranty period, customers enjoy warranty service from Bafang for products bought from Bafang as long as the products are within the warranty period and the issues are indeed quality issues concerning material and workmanship.

#### Warranty Period and Scope

Warranty period starts from the date of leaving factory, and is 30 months for motor, and 18 months for controller, display, sensor and other components.

Bafang limited warranty does not cover or apply to the following situations:

- 1) Damage, failure and/or loss caused by refitting, neglect, improper maintenance, accident, misuse, abuse or use for competition or commercial purpose;
- 2) Damage, failure and/or loss due to shipping ;

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3) Damage, failure and/or loss caused by improper installation, adjustment or repairing.

4) Damage, failure and/or loss irrelevant to material and workmanship, e.g., failure to follow instructions by users;

5) Damage, failure and/or loss caused by product's appearance or surface change which doesn't affect its function;

6) Damage, failure and/or loss due to maintenance or installation by repair stations or dealers unauthorized by Bafang;

7) Damage, failure or loss caused by normal wear and tear.

Bafang reserves the right to repair or replace the components, and is only responsible for repairing or replacing them.

In case bike manufacturers or dealers encounter quality issues when using or selling Bafang's products, they can report the purchase order number and products' serial number to Bafang's technology service department who will check whether the products are under warranty or not. For products under warranty, if it is a small problem, Bafang will provide customers (dealers or bike manufacturers) with free spare parts so

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that they can correct the problem themselves; if it's a big issue, Bafang will provide customers with free spare parts, show them what to do by sending them videos or documents or on some special occasions repairing the products for them. For products out of warranty, Bafang can still provide spare parts or repair the products for customers, but the incurred material cost, labor cost, freight etc. shall be undertaken by customers

If an end user has a bike equipped with Bafang components which need repairing, he/she should contact the bike manufacturer or dealer directly.

If this warranty statement is against a current Chinese law, the Chinese law shall prevail. Bafang reserves the right to modify the terms without announcement in advance.

For more information, please visit the company website:  
[www.szbaf.com](http://www.szbaf.com)