

# **brushless electrical micromotor**

Instruction manual

# content

1. user guide .....	1
2. safety notice and warning .....	2
3. technical specification .....	3
4. installation requirement.....	4
5. installation and usage instruction.....	5
6. maintenance .....	6
7. packing list .....	7

## 1. user guide

### 1.1 principle


Requirement: must read this guide first before use, in case misuse will harm people.


### 1.2 target user


This product is only to be used by dentist or dental related professional.

### 1.3 sign description


Following sign may appear in this manual, label or attached files. Some sign stand for this product' s standard and conformity.


 **0123** CE mark: conformity to medical equipment basic requirement direct 93/42/EEC.


 manufacturing date

 manufacturer

SN series number

 B type application

 disposition: do not dispose this product as city rubbish, it should be handle by level.

 Reference to instruction manual

### 1.4 level

1.4.1 II level equipment;

1.4.2 B type application

## 2. safety notice and warning

### 2.1 principle

User should use this product in requested environment and use correctly.

This product is only to be used by dentist or dental related professional. Not allow to use in other way.

### 2.2 purpose-correctly use

“Correctly use” means must follow the instruction manual, mean while regularly check and maintenance this product.

2.2.1 Installation, instruction, extension, adjust, change, maintenance all should be operated by manufacturer, authorized third party technician or authorized dealer.

2.2.2 This product should be operated according to usage, maintenance and installation instruction manual.

2.2.3 This product should be cleaned and maintenance according to instruction manual.

### 2.3 warning

2.3.1 Please do not dispose this product as not classify rubbish. It should be dispose by classify way in isolated facility. Please contact local government to check available rubbish classified collect system. If this product disposed in ground, it may danger the underground water, and get into food chain by water, then danger human health.

2.3.2 This product is not suitable to be used in environment mix with air, oxygen and nitric oxide. flammable anesthetic.

2.3.3 User should not take off contra angle or straight head from the motor before it is completely stop running.

2.3.4 Do not drop or crash this product.

2.3.5 Do not spray oil into this motor.

2.3.6 Do not use chemical disinfection way to disinfect this motor.

## 3. technical specification

control system: ----- vector control system

Motor type: ----- direct current brushless motor

speed: ----- 2,000 - 40,000 rpm  
torque: ----- 3.4Ncm  
power input: ----- AC 24V / DC36  
motor size: -----  $\phi 22 \times L71\text{mm}$   
motor weight: ----- 67 g  
noise: ----- <60dB  
light source: ----- LED (white light)  
air supply: -----ht)1.5 L/min 以上(0.2MPa)  
water supply: -----65 mL/min 以上(0.2MPa)  
control box size: ----- L130 x W55 x H21 mm  
total weight: ----- 632.00g

1

**4. installation requirement**

4.1 application requirement

environment temperature:-----  $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$   
humidity: ----- 10%~100%  
air pressure: ----- 177~216 KPa (1.8~3.0 kgf/cm<sup>2</sup>).

4.2 installation way:

4.2.1 Way one:

First: fix a base below the dental unit' s instrument tray box, and fix motor' s control panel on the base, then connect a 4 holes handpiece tubing to control PC board.  
Second: connect motor to control PC board' s motor tubing, then put the motor on the handpiese pylons.  
Third: connect electricity to the PC board.

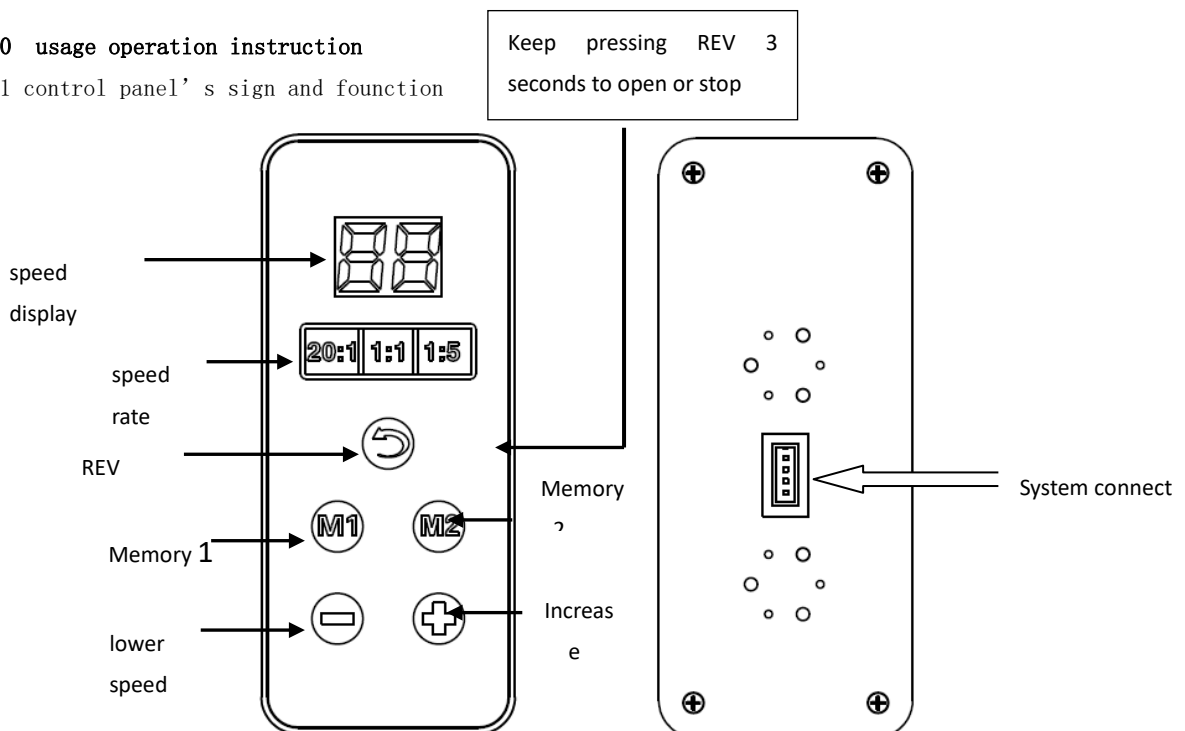
4.2.2 Way two:

Frist: fix motor' s control PC board directly in the dental unit' s instrument tray box, then connect a 4 holes handpiece tubing to control PC board.  
Second: connect motor to control PC board' s motor tubing, then put the motor on the handpiese pylons.  
Third: connect electricity to the PC board.

4.3 connect electricity to the control panel, open power, take our the motor, then you can control the motor by foot padel.

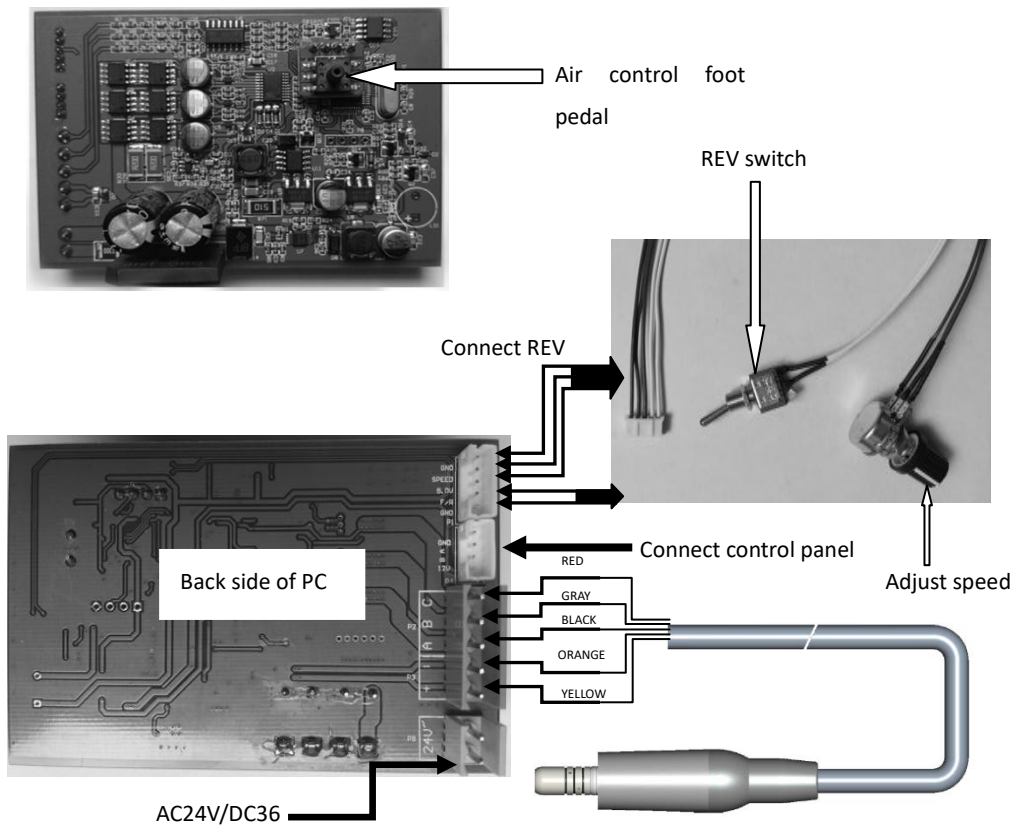
**5.0 usage operation instruction**

5.1 control panel' s sign and founction



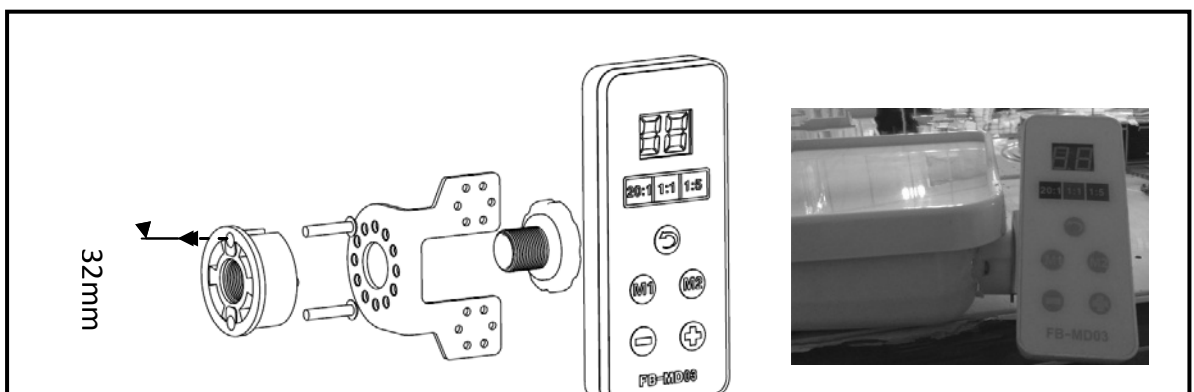
2

5.2 control PC board connection

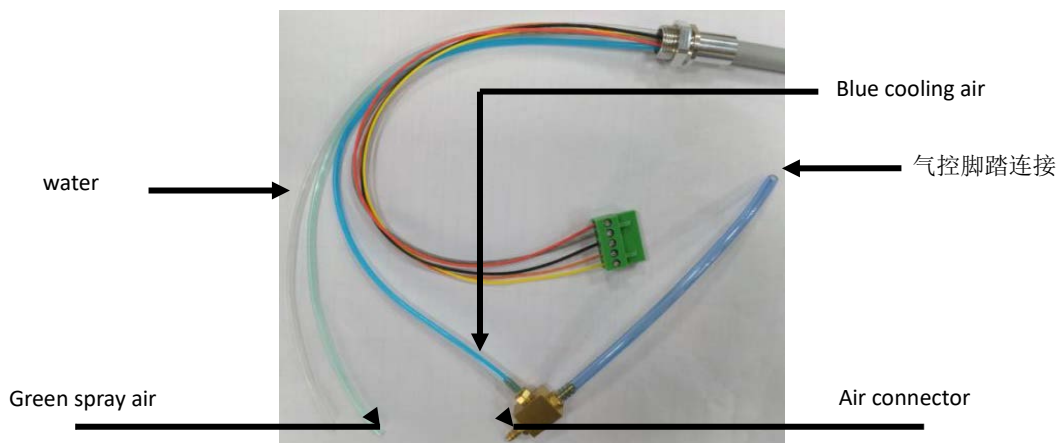


3

5.3 base and air and water tubing connection



install at left or right side of the instrument tray box, adjust direction 180°



5.4 start the motor, motor running, light is on.

5.5 press speed adjust button to adjust speed

5.6 按正转时，正反转指示灯亮，显示绿色；按反转时，正反转指示灯亮，显示黄色。Press REV, when it is clockwise rotate light is green; press REV again, when it is anti clockwise rotate, light is yellow.

**WARNING:** Do not press REV when motor is running. If you want to take off the motor, you should shut down the power first.

5.7 This product have 3 speed rate 1:5 , 1:1 & 20:1.. when use different contra angle with this motor, the speed display is the contra angle' s rotation speed. press speed rate button to choose correct rate for the contra angle you are using, and the rate button will light on.

Contra angle speed rate	Speed range (rpm)
16:1	100~2500
1:1	2,000~40,000
1:5	10,000~200,000

## 6. Maintenance

Everyday use ethyl alcohol to wipe the motor and control panel, keep them clean.

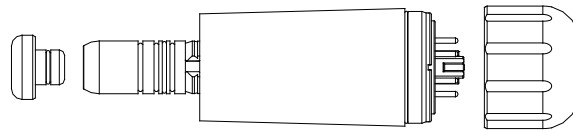
**WARNING:** Do not use strong oxidant water to clean, dip or wash this motor.

6.1 Replace O ring for the motor when O ring is broken.

6.2 Motor should use autoclave to disinfect. (do not suggest to do long time disinfect)

Seal blocker  
▶

Seal cap  
▶



**WARNING:** before autoclave disinfection, you must close the seal blocker and seal cap to protect the motor.

**WARNING::** Do not use chemical disinfect.

**WARNING::** Must clean the ,motor surface before autoclave disinfection.

### 7. Packing list

- motor: ----- 1pcs
- control pc board: ----- 1pcs
- motor tubing: ----- 1pcs
- control panel: ----- 1pcs
- seal cap: ----- 1pcs
- seal blocker:----- 1pcs
- 3 way connector:-----1pcs
- Fix base:----- 1pcs
- Instruction manual: ----- 1pcs