WUHU RUIJIN MEDICAL INSTRUMENT & DEVICE CO., LTD

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## **Medical Electric Oscillating saw**

## **Application and Feature:**

Medical electric swing saw(Picture 1) is used for joint Surgery. Medical Electric Swing saw have been Gradually replaced the Traditional Industrial Drill and saw which only can be fumigating. It can be autoclavable by high temperature and 1.6Mpa High Pressure, can be killed some of bacteria and verses which fumigating can not it also shorten the sterilization. Just under High temperature and high pressure, just 20 minutes, win the valuable time for the patient the device is optional, and its good looks, small size, light weight, no wires, easy to carry, safe operation.



Picture 1

## **Composition:**

The surgical power tool is composed of handpiece, charger, battery. The shell is hermetic. The charger is not used for medical instrument.

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#### **Main Technical Feature:**

| Hand Piece | Working Voltage          | 14.4V         |
|------------|--------------------------|---------------|
|            | Output Power             | ≥20W          |
|            | Unit rise in temperature | ≤25℃          |
| Charger    | Input Power              | AC 220V,50Hz  |
|            | Output Power             | 14.4V, 700mA  |
|            | Input Power              | 30VA          |
| Battery    | Voltage                  | 14.4V         |
|            | Charging time            | About 3 hours |

#### **Technical Data:**

| Non-load rotating Frequency | ≥16000r/min |  |
|-----------------------------|-------------|--|
| Non-load noise              | ≤90dB (A)   |  |

## **Products Classification:**

Medical electric saw drill's classification is based on shocking protection, the motor belongs to inner power B type device, charger belongs to II – B type common device; the device can not be used in flammable anaesthesia air & air mix or oxygen mix air.

Marking introduction: Working condition: Start up from cold status, run 1 minute with load condition, then stop working, after the instrument become cold, then work again.

Marking Introduction: : Class II type instrument; : B type Instrument

Mark: L: foreward R: reversal

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**OPEN Battery Cover Mark:** CLOSE

## **Explanation:**

The product is professional medical instrument, the user must be the person who has relative technical experience or has been trained.

The product should be sterilized before using. The product should be test before performance: put the battery into handpiece, depress the trigger then the motor should be running, exchange the CW/CCW switch, the motor should be reverse running, otherwise there are something wrong with the handpiece, stop using immediately and contact to the seller, return the instrument to the factory for maintenance.

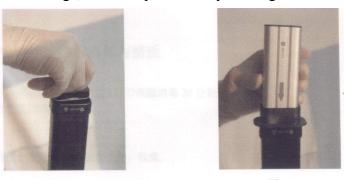
#### 1: The saw blade's insertion and release:

Depress the saw blade lock button, insert the saw blade to the lock button, then loosen the button, the saw blade will be locked tightly. The saw blade should be changed if it's blunt.

## 2. Battery insertion and release:

Take off the battery cover, put the battery transfer ring on it, hold the battery with a sterile gauze, make the battery small side down, aim the concave channel to the channel of the handpiece, remove the gauze and cover the battery cover. After the procedure finished, hold the handle and shake it, then the battery will drop automatically.

**Note:** To avoid damage, don't drop the battery to the ground.



Picture 2 picture 3

## 3. Charging and battery instruction

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The charger doesn't belong to medical instrument. During charging, the battery is separate from handpiece. Connect the charger to the power supply out of operation room, the power indicator light and charging indicator light will be on. Make the battery small side down, insert the battery to the charger, the charging indicator light will change from green to yellow, that mean the charging start, after 3 hours, the yellow indicator light will turn back to green, that mean the charging finished. The battery can not be used immediately after charging, it must be cold down first, then be covered by sterile protection cover and brought to operation room. The full charged battery can be used under full load condition no less than 8 minutes. The battery is J-AA 1800Ni-MH green battery, without memory, it's no need to discharge before charging.

If the battery will not be used for a long time, you should charge the battery timely (15 days) to confirm its life.

Testing the power capacity, connect the charger to the power supply, insert the socket on the battery to the charger, the indicator light turn to green mean the capacity is full, otherwise mean the capacity is not full, should charge it again or replace the battery. Normally, the battery can be charged and discharged for 500 times.

Note: Don't put the battery to fire, otherwise it will explode, it should be put into the special recycle box.

#### Attention:

- Do check the drill bit's jumping before procedure performance, if it jump too big range, it can not be used. Check the drill if sharp, if not should be burnished. When the tool used to cut the object, then it should be fixed and without vibrating. If the drill bit is broken, please replace it immediately.
- The drill bit and saw should be fixed tightly, a special chunk key can help you locking drill bit. Make sure the saw blade is properly seated and secure, pull the blade to test if it's fixed after inserting.
- There is a F type, 10A fuse inside battery, if the instrument is not able to running when testing, that is to say, the fuse may broken, this situation occurred accompany handpiece broken, don't repair it yourself, contact your seller or factory, send the instrument to factory for a maintenance

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4. The battery should not be sterilized by high temperature and high pressure and can not be stay in handpiece for a long time. If power break occurred during the operation (the instrument stop running), replace the battery immediately.

- If there are some abnormal voice during performance, or the instrument is too hot, please stop using and contact your seller or factory, send the instrument to factory for a maintenance.
- Motor rotating speed: according to normal situation, if the speed is too high, may cause the bone burning damage, if the speed is too low means need too long time for an operation, so the optimal speed is very important. 500 r/min is the better choice.
- 7. Sterilization: The handpiece can be sterilized by high temperature and pressure, or by steam, or immersion. The battery is forbidden to sterilize by high temperature and pressure or immersion.

## **Troubleshooting:**

- 1. The cutting saw blade is not in right position: follow operating manual strictly.
- 2. Battery lose efficiency: check the battery in time.
- 3. Battery uncharged: Charge it before operation.
- 4. Battery un-full charged: Check the battery before operation

#### Sterilization:

After sterilized according to hospital's sterilization standard, test it before using.

## **About Quality:**

- a) Medical Electric swing saw have tested before send to you, please rest assureed to use.
- After purchasing the medical electrically operated medical electric swing saw, please check the whole set instrument.

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## Cleaning and sterilization:

★ Note: battery can not be sterilized by high temperature and high pressure.

1.cleaning: The surface of the Hand piece can be cleaned by gauze with water or alcohol, then store it.

**2.Sterilization:** After sterilized according to hospital's sterilization standard, test it before using.

Sterilization Suggestion( for Hand Piece):

| Method                         | Temperature | Time   | Dry               |
|--------------------------------|-------------|--------|-------------------|
| Quick without packing cloth    | 129℃~134℃   | 10min  | 8min              |
| Vacuum with packing cloth      | 129℃~134℃   | 4min   | 8min              |
| 100% ethylene oxide with cloth | 49℃~57℃     | 150min | Ventilate 8 hours |
| 270F steam with cloth          | 129℃~134℃   | 35min  | 8min              |
| 270F steam with cloth          | 121℃~123℃   | 50 min | 8 min             |

#### Note:

- 1. The battery can not be sterilized by high temperature and high pressure.
- 2. All the method above is reliable, but the time and the temperature should be controlled in the correct range strictly, otherwise will cause handpiece damage! The charger and battery can not be sterilized.
- 3. We suggest sterilize by steam of formalin according to hospital's standard, although it's corrosive, but can not damage the motor immediately. Pre-vacuumed sterilizer is recommended, for it's less vapor. Sterilization by epoxy ethane is the best way, neither vapor nor corrosivity.

**Commitment:** a) the absence of non-professional equipment repair removable parts.

b) if need our medical electric technical data, please kindly contact me.

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| Transportation and | Environment temperature range | -10℃~+40℃          |
|--------------------|-------------------------------|--------------------|
| Storage Condition  | Relative humidity range       | ≤90%               |
|                    | Air pressure rang             | 500hPa~1060hPa     |
|                    | Environment temperature range | 5℃~40℃             |
| Instrument running | Relative humidity range       | ≤70%               |
| condition          | Air pressure rang             | 860hPa~1060hPa     |
|                    | Charger's power supply        | 220V±22V; 50Hz±1Hz |
|                    | Handpiece power(DC            | 14.4V±10%          |

## **Packing List**

| part                  | amount |
|-----------------------|--------|
| Hand Piece            | 1      |
| Charger               | 1      |
| Battery               | 1      |
| Saw                   | 2      |
| Sterilization Channel | 1      |
| Operating Manual      | 1      |
| Aluminium Box         | 1      |

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