张连琼25.11.08



User Manual

Dental electrical motor

C-PUMA MINI

Foshan COXO Medical Instrument Co., Ltd.
No. 17, Guangming Ave., New Light Source Industrial Base, Nanhai National High-tech Zone, Foshan 528226, Guangdong P.R. China

EU REP **Lotus NL B.V.**
Koningin Julianaplein 10, 1e Verd, 2595AA,
The Hague, Netherlands.
E-mail: info@lotusnl.com
Tel: +31644168999

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Introduction

Thank you for purchasing the instrument.

For optimum safety and performance, read this manual thoroughly before using the instrument and pay close attention to warning and notes.

Keep this manual in a handy place for quickly and easy reference.

a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the instrument is used exceeds the applicable RF compliance level above, the instrument should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the instrument.

b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Recommended separation distances between portable and mobile RF communications equipment and the instrument.

The instrument is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the instrument can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the instrument as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter (W)	Separation distance according to frequency of transmitter		
	150 kHz to 80 MHz $d=1.2\times\sqrt{P}$	80 MHz to 800 MHZ $d=1.2\times\sqrt{P}$	80 MHz to 800 MHz $d=2.3\times\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE1: At 80 MHz and 800 MHz, the separation distance for the higher frequency rangeapplies.

NOTE2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Guidance and manufacture's declaration – electromagnetic immunity			
The instrument is intended for use in the electromagnetic environment specified below. The customer or the user of instrument should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment – guidance**
Conducted RF IEC61000-4-6 Radiated RF IEC 61000-4-3	3 Vrms 150 kHz to 80 MHz 6 Vrms in ISMban 3 V/m 80 MHz to 2.7 GHz 385MHz-5785MHz Test specifications for ENCLOSUREPORT IMMUNITY to RF wirelesscommunic ationequipment(R efer to table 9of IEC 60601-1-2:2014)	3 Vrms 150 kHz to 80 MHz 6 Vrms in ISM bands 3 V/m 80 MHz to 2.7GHz 385MHz-5785MHz Testspecifications ENCLOSUREPORT IMMUNITY toRF wirelesscommunic ationequipment(R efer to table 9 of IEC60601-1-2:204)	Portable and mobile RF communications equipment should be used no closer to any part of the instrument, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance d=1.2× d=1.2× 80 MHz to 800 MHz d=1.2× 800 MHz to 2,5 GHz where is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey should be less than the compliance level in each frequency range Interference may occur in the vicinity of equipment marked with the following symbol:

NOTE 1At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

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1. User Instructions

1.1User Guide

Requirement
Read these instructions prior to first time use in order to avoid misuse and prevent damage.

Hazard levels
The warning and safety notes in this document must be observed to prevent personal injury and damage to the instrument. The warnings are as follow:

> **WARNING:**
> In cases which – if not prevented – could lead to death or severe injury.

> **CAUTION:**
> If not heeded could lead to minor or moderate injury.

> **NOTE:**
> In cases which – if not prevented – could cause damage to the instrument.

1.2 Target Reader

This document is intended for dentists, dental clinic workers, and service agents.

Guidance and manufacture's declaration – electromagnetic immunity

The instrument is intended for use in the electromagnetic environment specified below. The customer or the user of instrument should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD)IEC 61000-4-2	±8 kV contact ±2 kV, ±4 kV,±8kV,±15 kV air	±8 kV contact ±2 kV, ±4 kV,±8kV, ±15 kV air	Floors should be wood, concrete or ceramic tile. If floor are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burstIEC 61000-4-4	±2kV for power supply lines ±1 kV for Input/output lines	±2kV for power supply lines ±1 kV for Input/output lines	Mains power quality should be that of atypical commercial or hospital environment.
SurgeIEC 61000-4-5	±0.5 kV & ±1 kV differential mode ±0.5 kV, ±1 kV & ±2 kV common mode	±0.5 kV & ±1 kV differential mode ±0.5 kV, ±1 kV & ± 2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips,shortinterruptionsand voltagevariationson power supply input lines IEC 61000-4-11	100 % U_T (100% dip in U_T.)for 0.5 cycle 100 % U_T (100% dip in U_T.)for 1 cycle 30 % U_T (70% dip in U_T) for 25/30 cycles 100 % U_T (100% dip in UT.)for 250/300 cycle	100 % (100% dip in U_T.)for 0.5 cycle 100 % U_T (100% dip in U_T.)for 1 cycle 30 % U_T (70% dip in U_T) for 25/30 cycles 100 % U_T (100% dip inU_T.)for 250/300 cycle	Mains power quality should be that of a typical commercial or hospital environment. If the user of the instrument requires continued operation during power mains interruptions, it is recommended that the instrument be powered from a unit eruptible power supply or a battery.
Power frequency(50/60 Hz)magnetic fieldIEC 61000	3A/m	3A/m	Power frequency magnetic fields shouldbe at levels characteristic of a typical location in a typical commercial or hospital environment.

NOTE: U_T is the a.c. mains voltage prior to application of the test level.

10. Guidance and manufacturer's declaration--EMC:

This instrument needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided, and this instrument can be affected by portable and mobile RF communications instrument.

Caution:

Do not use a mobile phone or other instruments that emit electromagnetic fields, near the instrument. This may result in incorrect operation of the instrument.

This instrument has been thoroughly tested and inspected to assure proper performance and operation!

This instrument should not be used adjacent to or stacked with other instrument and that if adjacent or stacked use is necessary, this instrument should be observed to verify normal operation in the configuration in which it will be used.

Guidance and manufacture's declaration – electromagnetic emission		
The instrument is intended for use in the electromagnetic environment specified below. The customer or the user of the instrument should assure that it is used in such an environment.		
Emission test	**Compliance**	**Electromagnetic environment – guidance**
RF emissions CISPR 11	Group 1	The instrument use RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emission CISPR 11	Class B	The instrument is suitable for use in all establishments, including domestic establishments directly connected to the public low-voltage power supply network with specific requirement.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/flicker emissions IEC 61000	Complies	

1.3 Repair Service

For repairs, please contact the manufacturer or authorized dealers.

1.4 Terms and Conditions of Warranty

Within the scope of the applicable manufacturer delivery and payment conditions, the manufacturer guarantees proper function, absence of defects in the instrument for a period of 24 months from the date of purchase. The date of purchase should be confirmed by the salesperson.

1.4.1 Disclaimer

Manufacturer will not be responsible for accidents, instrument damage, or bodily injury resulting from:

- Repairs made by personnel not authorized by the manufacturer.
- Any changes, modifications, or alterations of its products.
- The use of products or instruments made by other manufacturers, which are not included as approved by the manufacturer.
- Maintenance or repairs using parts or components other than those specified by the manufacturer and any alterations from original condition of the instrument.
- Operating the instrument in ways other than the operating procedures described in this manual or resulting from the safety precautions and warnings in this manual not being observed.
- Workplace conditions and environment or installation conditions which do not conform to those stated in this manual such as improper electrical power supply.
- Fires, earthquakes, floods, lightning, natural disasters, or any other unforeseeable forces.

1.4.2 In Case of Accident

If an accident occurs, the instrument must not be used until repairs have been completed by a qualified and trained technician authorized by the manufacturer.

1.4.3 User Qualifications

Intended Operator Profile

- Qualification: Legally qualified person such as dentists for endodontic instrument operation (it may differs among countries).
- Education and Knowledge: It is assumed the user is thoroughly familiar with root canal measuring and treatment including the prevention of cross contamination.
- Language Understanding: English (Intended for professional use as described above)
- Experience: Experienced person with operating endodontic instrument.

1.5 Operating environment, Storage and Transportation conditions

Operating environment

Operating temperature	5℃— 40℃
Operating humidity	20%— 80%
Atmospheric pressure	86kPa — 106kPa

Storage and Transportation conditions

Storage temperature	-10—55℃
Storage humidity	≤93%
Atmospheric pressure	50kPa — 106kPa

9. Troubleshooting

Malfunction	Cause	Remedy
Non-functional instrument	The unit is switched off.	Switch-on the mains switch on the rear of the unit
	Neither end of the power cable is plugged in.	Plug in the power input cable.
	Blown fuse.	Replace the fuse.
The motor does not run	Insufficient air pressure	Minimum pressure:0.03-0.10Mpa Maximum pressure:0.20 0.35Mpa
	Motor connection is loose. Overload.	Check connection. Check handpiece if it stuck.
The motor makes noise or does not run smoothly	The motor is not correctly plugged on or screwed on.	Check if all the connections and couplings are firmly seated.
	The light is not turned on	Turn on the light
No light on the contra-angle handpiece	The contra-angle handpiece is improperly attached.	Attach contra-angle handpiece until the catch audibly locks.
	Defective LED.	Replace the LED.
	Not a suitable straight and contra-angle handpiece.	Use a suitable light, straight and contra-angle handpiece.
Over-heating.	Overheating by extended use under heavy load.	Allow it to cool down before use.
Too fast or slow.	Transmission ratio set incorrectly.	Set the gear ratio to match the handpiece.
	Need recalibrate.	Recalibrate.

The parts of the instrument should be repaired by designated professionals. If problem cannot be solved, please contact local dealer or our company.

the required results. State of the art and often national law requiring these processes and included resources to be validated and maintained properly.

8. Guarantee

- Control unit is covered by 24 months warranty and the contra angle is covered by 12 months warranty. Adaptor and power cord are covered by 6 months warranty .The warranty commences on the date of purchase.
- Within the warranty period, Manufacturer will eliminate free of charge any defects in the appliance resulting from faults in material or workmanship either by repairing or exchanging parts or exchanging the whole instrument at Manufacturer's discretion .
- Not covered by this warranty: Damage arising from improper use (operation with incorrect current/ voltage, unsuitable power point, breakage, cleaning by other than the recommended methods), normal wear and defects which have a negligible effect on the value or operation of the appliance.
- This warranty becomes void if repairs are undertaken by unauthorized persons.
- The supplier can provide circuit diagrams, component lists, legends, calibration rules, or other materials necessary for repair by qualified technicians and repairable instrument parts designated by the manufacturer as required.

1.6 Disposal of Medical Instruments



In accordance with the principles, standards, and requirements of the country (region) in which you are located. When disposing of the old electrical equipment ensure that pollution is not produced in the process of waste disposal.

2. Safety

The instructions for use are a component of the product and must be read carefully prior to use and be accessible at all times.

The instrument may only be used in accordance with the intended use; any other type of use is not permitted.

2.1 Infection Hazard

Patients, users, or third parties could be infected by contaminated medical instruments.

- Take suitable personal protective measures.
- Follow the instructions for using the components.
- Before the initial startup and after each use, reprocess and sterilize the medical instrument and accessories accordingly.
- Carry out the cleaning and sterilization as described in the instructions for use.
- It is essential to ensure the effectiveness of the cleaning and sterilization in the case of deviation in procedure.
- Prior to disposal, the product and accessories must be appropriately reprocessed or sterilized.

2.2 Explosion Hazard Area

Electrical sparks in the product can lead to explosion or fire.

- Do not use product in explosion hazardous areas.
- Do not operate the product in an oxygen-enriched environment.
- Do not use the product near the vicinity of flammable gases.

2.3 Technical Condition

A damaged instrument or components could injure patients, users, and third parties. A damaged power cable or missing protective conductor can lead to electrical shock.

- Only operate instruments or components if they are undamaged on the outside.
- Check the power cable before use.
- Connect only to sockets with a protective contact that meet the respective national regulations.
- Check the proper working order and proper condition of product and accessories before each use.
- Have parts with sites of breakage or surface changes checked by the authorized service personnel.
- Safety checks may only be performed by trained service personnel.
- Perform a test run with the handpiece before each use.
- If any of the following defects on the product or accessories occurs, stop using the instrument and have a service representative carry out repair work:
  - Malfunctions
  - Damage
  - Irregular operating noise
  - Excessive vibration
  - Overheating
  - Dental bur or diamond grinder is not firmly locked in the handpiece

	Defective accessories should be immediately discarded. The defects include: plastic deformation and corrosion Maintenance is not required. Instruments oil must not be used
Packaging:	Pack the instruments in an appropriate packaging material for sterilization. The packaging material and system refer to EN ISO 11607.
Sterilization:	The protection plug and motor cap must be installed before sterilized. Sterilization of instruments by applying a fractionated pre-vacuum steam sterilization process (according to EN 285 / EN 13060 / EN ISO 17665) under consideration of the respective country requirements. Minimal requirements: 3 min at 134 °C. In EU, 5 min at 134 °C is required. Maximal sterilization temperature: 137°C. Flash sterilization is not allowed on lumen instruments Sterilizable times: 250
Storage:	Storage of sterilized instruments in a dry, clean and dust free environment at modest temperatures refer to label and instructions for use.
Reprocessing validation study information	The above-mentioned reprocessing process (cleaning, disinfection sterilization) has been successfully validated.
Additional Instructions: None	
It is the duty of the user to ensure that the reprocessing processes including resources, materials and personnel are capable to reach	

	• 4 min pre-washing with cold water (<40°C) • emptying • 5 min washing with a mild alkaline cleaner at 55°C • emptying • 3 min neutralising with warm water (>40°C) • emptying • 5 min intermediate rinsing with warm water (>40°C) • Emptying The automated cleaning processes have been validated by using0. 5% neodisher MediClean forte (Dr Weigert) Note Acc to en ISO 17664 no manual reprocessing methods are required for these instruments. If a manual reprocessing method has to be used, please validate it prior to use
Disinfection:	Automated Disinfection: Automated Thermal Disinfection in washer/disinfector under consideration of national requirements in regards to A0-Value (see EN 15883). A disinfection cycle of 5 min disinfection at 93°C has been validated for the instrument to achieve an A0 value of 3000.
Drying:	Automated Drying: Drying of outside of instrument through drying cycle of washer/disinfector. If needed, additional manual drying can be performed through lint free towel. Insufflate cavities of instruments by using sterile compressed air.
Functional Testing, Maintenance:	Visual inspection for cleanliness of the instruments and reassembling. Functional testing according to instructions of use. If necessary, perform reprocessing process again until instrument is visibly clean.

- Power supply and cable/hoses need to be set-up/routed appropriately such that they are not on the floor.

2.4 Ingress of Liquids

Use of the product in moist or electrically conductive environments can lead to electrical shock and injury to patients, users, and third parties.

- Only use the product in dry environments.
- Use the product only in environments that are not electrically conductive.
- Prevent liquid from entering the openings of the product.
- Do not place the product in long or narrow containers.
- If any liquid is detected on the instrument, disconnect the power cable immediately and do not touch the product.
- Make sure that the surface of the product is absolutely dry before plugging the power cable back inthe socket.
- After interventions on and repairs of the instrument and before re-use, have the service personnel perform safety checks on the instrument.

2.5 Accessories and Combinations with Other Equipment

Use of unauthorized accessories or unauthorized modifications of the instrument could lead to injury.

- Only use accessories that have been approved for combination with the product by the manufacturer.
- Only use accessories that are equipped with standardized interfaces.
- Do not make any modifications to the instrument unless these have been approved by the manufacturer of the product.

2.6 Qualification of Personnel

Application of the product by users without the appropriate medical training could injure the patients, the users, or third parties.

- Make sure that the user has read and understood the instructions for use.
- Only employ the instrument if the user has the appropriate medical training.
- Observe national and regional regulations.

Improper use of handpieces can cause injuries.

You need to comply with the following guidelines to ensure the safe use of the electrically-driven handpieces:

- Observe national and regional regulations. Improper use of handpieces can cause injuries. You need to comply with the following guidelines to ensure the safe use of the electrically-driven handpieces.
- Follow the instructions for use of the respective handpiece.
- Check the speed setting each time you turn on the instrument.
- Comply with the permissible maximal speed and maximal contact pressure of the tools as specified by the tool manufacturer.
- Comply with the servicing instructions for handpieces as specified in the respective instructions for use.
- Never press the push-button during operation of the instrument.
- Never use the push-button to lift the cheek or tongue.

If the transmission ratio selected on the instrument differs from the transmission ratio of the dental instrument, the files may rotate too fast and cause injury.

- Make sure that the handpiece you use and the setting of the transmission ratio are consistent.

Decontamination of other parts than Motor and Contra-angle:	After operation, take out Control unit on the workbench Soak a soft cloth completely with distilled water or deionized water, Decontamination and wipe all the surfaces of these components, until the surface of the parts the components is visually clean For decontamination, soak a dry soft cloth with 75% alcohol Wipe all surfaces of Control unit with the wet soft cloth for about 3 minutes. Please follow the instructions of manufacturer of disinfectant swipe the surface of the component with a dry soft lint-free cloth
Pre-Cleaning:	**Following instruction is only relevant for Motor and Contra-angle.** **Not use automated cleaning, disinfection and sterilization for other parts than Motor and Contra-angle in this system!** Do a manual pre-cleaning, until the instruments are visually clean. Submerge the instruments in a cleaning solution and flush the lumens with a water jet pistol with cold tap water for at least 10 seconds. Clean the surface with a soft bristol brush.
Cleaning:	Regarding cleaning/disinfection, rinsing and drying, it is to distinguish between manual and automated reprocessing methods. Preference is to be given to automated reprocessing methods, especially due to the better standardizing potential and industrial safety. Automated Cleaning: Use a washer-disinfector meeting the requirements of the ISO 15883 series. Put the instrument into the machine on a tray. Connect the instrument with the WD by using suitable adapter and start the program:

ADVICE:	Reprocessing procedures have only limited implications to a surgical instrument. The limitation of the numbers of reprocessing procedures is therefore determined by the function / wear of the instrument. There is no limit of maximum allowable reprocessing cycles. The instrument should no longer be reused in case of signs of material degradation. In case of damage the instrument should be reprocessed before sending back to the manufacturer for repair.
Reprocessing Instructions	
Preparation at the Point of Use:	Remove Motor and Contra-angle. Remove gross soiling of the instrument with cold water (<40°C) immediately after use. Don't use a fixating detergent or hot water (>40°C) as this can cause the fixation of residuals which may influence the result of the reprocessing process. Store the instruments in a humid surrounding.
Transportation:	Safe storage and transportation to the reprocessing area to avoid any damage and contamination to the environment.
Preparation for Decontamination:	The instruments must be reprocessed in a disassembled state. Only Motor and Contra-angle can be cleaned and disinfected with automated methods and sterilized with steam sterilization process. Do not sterilize Control unit. The Control unit cannot be cleaned and disinfected in a washer/disinfector. For these parts, only general wipe decontamination is possible!

Improper use of tools, e.g. wrong drill length and files, can cause injuries.

- Follow manufacturer's instructions (mode of operation, speed, torque levels, torsion resistance, etc.), and use the files according to their intended use.

2.7 Electromagnetic Fields

Electromagnetic fields might interfere with the functions of implanted systems (such as pacemakers).

Medical electrical instruments are subject to special precautions regarding electromagnetic compatibility and must be installed and operated in accordance with the tables of electromagnetic compatibility. See also: 9 Information about electromagnetic compatibility

High-frequency communications instruments may interfere with medical electrical instruments.

- Ask patients if they have a cardiac pacemaker or other system implanted before you start the treatment.
- Comply with the tables of electromagnetic compatibility during installation and commissioning.
- If the instrument needs to be used in the immediate vicinity of other equipment, monitor the instrument or system for malfunctions.

3. Description of the Product

3.1Intended Use

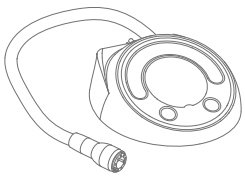
This instrument is intended to convert pneumatic output from a dental treatment center to electrical energy to drive the motor for operation of electrically-driven dental handpieces.

This instrument is designed for use by a trained professional in the field of general dentistry.

3.2Contraindications

- Use with caution for pregnant women , children, and people who have had retina
- In cases where a patient has been fitted with an implanted heart pacemaker (or other electrical equipment) and has been cautioned against the use of small electrical appliances (such as electric shavers, hair dryers, etc.) it is recommended not to use the instrument.
- The instrument should not be used for severely curved root canal preparation. Do not use the instrument for implant or any other dentist procedure outside endodontic.

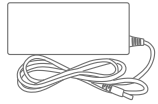
3.3 product composition



Control unit



Motor



Adaptor



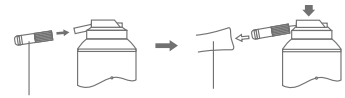
Power Cord

- Wipe instrument surface with clean water or disinfectant, do not soak.
- During cleaning process, keep the control unit from liquid;
- Disconnect the power when cleaning control unit.
- Recommends lubrication the product as part of the processing after each use, i.e. after each cleaning, disinfection, and before each sterilization. Contra-angle lubrication, follow the next step:

  Remove the bur.

  Plug the product onto the grease nozzle, and press the spray button for 2-3 second.

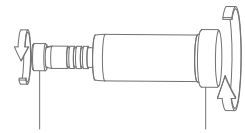
  The adjusted will be automatically saved.



Grease nozzle Control angle

- The protection plug and motor cap must be installed before sterilized, the installation follow the next step:

  Screw in Motor Cap and protection plug in the picture shown.



Protection Plug Motor Cap

7. Cleaning, Disinfection and Sterilization

Instrument:	Control unit, Motor and Contra-angle. The procedure for cleaning, disinfection and sterilization applies only to Motor and Contra-angle.

5.4 Rotary Direction

The default is clockwise rotation ;

Long press " " for 2 seconds to switch direction, the indicator is on when clockwise rotation, otherwise it is off.

- After restarting, the default is clockwise rotation.
- During working, direction cannot be switch.
- When working in reverse, it will be prompted by a buzzer.

5.5 LED function

Press LED switch to turn on the function, and press again to turn it off.

- The adjusted will be automatically saved.

5.6 Starting working

Via touch screen

Long press " " and " " for 3 seconds at the same time to start working, and press any one of the buttons again to stop.

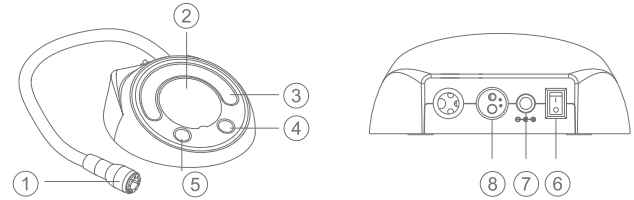
Via Foot pedal

Press down foot pedal to start working and release it to stop.

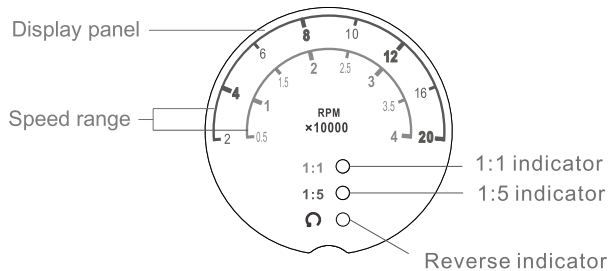
6. Maintenance

- Check whether motor, contra-angle, LED and other parts are damaged before each use. If so, please stop using it immediately and contact our company or authorized dealers for help;

3.4 product structure



①	Motor Connector
②	Display panel
③	Touch Button
④	Function Button
⑤	LED Switch
⑥	ON/OFF button
⑦	Adapter Socket
⑧	4-Hole Standard Connector



3.5 Technical Specifications

Adaptor	
Adaptor input	100-240V ~ 50/60Hz
Adaptor output	29.5V ⎓ 4.8A
Control Unit	
Control unit length	147.5 mm
Control unit width	130.5 mm
Control unit height	50.5 mm
Operation mode: Non-continuous	
Operating time	40S
Pause time	10min
Electrical Motor	
Water hardness	8.4 to 12 °dH
PH	7.2 to 7.8
System pressure	2.0 to 5 bar
Spray air	1.0 to 2.5 bar
Spray water	0.8 to 2.0 bar
Cooling water	> 50ml/min
Cooling air exit at the motor coupling	-9NL/min
Speed	5000-40000 rpm
Torque output	2 N.cm
Motor cabling lengths	1.8m
Degree of Protection against Electric Shock	Type B applied part
LED voltage	3V
LED illumination	> 10000lx
Degree of Protection:	IPX0

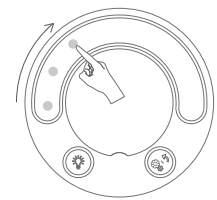
According to the user needs, switch modes by short pressing“ ”.

- During working, transmission ratio cannot be switched.
- The selected transmission ratio will be automatically saved.

- The selected ratio must be consistent with the actual connection.

5.3 Speed

Slide touch button in semicircular groove to adjust speed , indicator will light up green.



- The adjusted speed will be automatically saved.
- Speed is equal to the number corresponding to the green indicator light multiplied by Rpm.

5. Operation

- Property damage due to incorrect pressures , set the pressures according to the technical specifications.
- Make sure that the compressed air is dry and free of dirt and oil according to EN ISO 7494-2.
- Make sure that the pH of the water is between 7.2 to 7.8.
- Power supply and cable/hoses need to be set-up/routed appropriately such that they are not on the floor.

- Spray air and water from the instrument for at least 20 seconds before treating a patient

5.1 Power on/off

Connect the power supply, press power switch to turn on the instrument, press again to turn it off.

5.2 Transmission ratio

The instrument has 1:5and 1:1 transmission ratio

Transmission ratio	Speed range	Indicator
1:5	20000-200000	Orange
1:1	5000-40000	Blue

3.6 Symbols on Product and Specification Plate

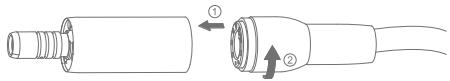
	Warning/ Caution		Note
	Consult instruction for use		Manufacturer
EU REP	European Union agent	SN	Serial number
	Type B applied part		Keep dry
CE 0197	CE marked product		Fragile, handle with
	This way up		alternating current
	Thermo-Disinfector	134℃	Sterilizable in a steam sterilizer at 134℃
	Products comply with WEEE directive		

4. Installation

4.1 Connecting the Motor

Connect electrical motor to motor hose and twist.

Screw tight the hose-side union nut proceeding in the direction of the arrow.

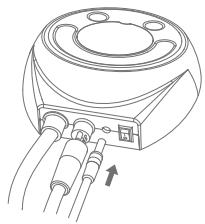


- The correct attachment position is attained automatically.

4.2 Connecting the Control Unit

Connect 4-hole turbine hose of the dental unit to 4-hole standard connector of control unit.

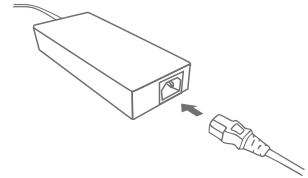
Insert the adaptor plug into the power supply jack of control unit.



- The adjusted speed will be automatically saved. If the turbine hose of the dental unit has a 2-hole or 6-hole connector, replace the hose with a 4-hole

4.3 Connecting the Power Supply

Connect the adaptor and power supply via power cord.



4.4 Connecting Contra Angle

Align the contra angle interface with the motor connector, and slide it in until it clicks securely into place.

- All contra-angle handpieces with the motor connection YY/T 1012-2004/ISO 3964 can be attached.

