

iM3® Piezo Surgery - OP1

INSTRUCTIONS FOR USE AND TECHNICAL MANUAL



-----Table of Contents-----

1. PREFACE	2
2. DELIVERY	6
3. INSTALLATION	8
4. OPERATION	14
5. CLEANING , DISINFECTING , AND STERILIZING	22
6. REGULAR MAINTENANCE	25
7. BATTERY REPLACEMENT FOR FS-20W	25
8. FUSE REPLACEMENT	26
9. SYMBOLS	26
10. STANDARD SURGERY TIPS	27
11. TROUBLESHOOTING GUIDE	31
12. TECHNICAL DATA	32
13. PRODUCT DISPOSAL	32

1. PREFACE




Foreword

Thank you for purchasing the iM3 OP1 from iM3 Dental Limited. The purpose of this manual is to ensure that the operator is aware of the safety requirements, installation procedures, instructions for proper use, and maintenance of the device.

Please read this manual carefully prior to installing, operating, maintaining, or performing any other activities on the iM3 OP1.

Always keep this manual within reach.

Important: To prevent personal injuries or damage to property, carefully read the **Safety Requirements** section found in this manual. Use the below symbols to help determine the type and severity of indication:

Classification	Definition
 NOTICE	Indicates important usage tips and helpful information.
 CAUTION	Indicates a scenario where specific operating or maintenance procedures must be followed in order to prevent injury or damage.
 WARNING	Indicates a scenario with a high chance for physical or property damage in the event of negligence or improper use.

The user is not authorized to tamper with the equipment under any circumstances. If any problems are encountered, please contact an iM3 Dental Limited representative for service.

Any attempts made by the user or any unauthorized personnel to tamper with or alter the device will invalidate the warranty, and release the manufacturer from any liability involving harm or damage to persons or property.



Bonart Co., Ltd.

No.80, Wuxun St., Anle Dist.,
Keelung City, 20446, Taiwan, R.O.C.
Tel: 886-2-22983980
Fax:886-2-22983981
Email: generalinquiries@bonartmed.com



Jorgen Kruise A/S

Havretoften 4, DK-5550 Langeskov,
Denmark



Features

The iM3 OP1 system ultrasonic vibration technique incorporates the new age of osteotomy and osteoplasty in dental implants, periodontic, endodontic, and orthodontic surgery. The main features of the iM3 OP1 system are:

- **Micrometric Cutting:** Maximum surgical precision and intra-operative sensitivity.
- **Selective Cutting:** Maximum safety for the soft tissues.
- **Cavitation Effect:** Maximum intra-operative visibility.

The equipment has an AGC (Auto Gain Control) circuit. The AGC offsets the wear of the tips in order to ensure constant conditions for maximum efficiency.

Intended Use

The iM3 OP1 is a piezoelectric device use mainly for dental bone surgery that enables the osteotomy and osteoplasty techniques to be applied in almost any anatomical situation. The OP1 can be used in the following fields:

- **Oral Surgery** (Extraction, Apicoectomy, Cystectomy, Distraction osteogenic)
- **Implantology** (Bone window osteotomy, crest expansion, bone fragment removal, monocortical bone removal, osteoplasty, final preparation of the implant site, extraction for immediate implantation, elevation of Schneider's membrane)
- **Periodontal Surgery** (Osteotomy and osteoplasty techniques, removal of bone tissues in regeneration surgery, root debridement, root planning)
- **Orthodontic Surgery** (Exposure or extraction of embedded teeth, orthodontic corticotomy)

The iM3 OP1 should be stored in a room free of flammable gases (anesthetic mixtures, oxygen, etc.) and operated for dental oral surgery only.

Safety Requirements

iM3 Dental Limited shall not be held liable for any direct or incidental personal injury or damage to property in the following cases:

1. The equipment is use for purposes other than its intended use.
2. The equipment is not used in accordance with all the instructions described in this manual.
3. The wiring system in the room where the equipment is used does not comply with applicable standards and appropriate requirements.
4. Any assembly operations, extensions, settings, alterations or repairs are carried out by personnel not authorized by iM3 Dental Limited.

5. The environmental conditions in which the device is kept and stored do not comply with the requirements indicated in the technical specifications section of this manual.
6. The equipment is damaged during transit to and from the customer.
7. The equipment is dropped, altered or dipped in water.

Precautions

- A. It is strongly advised that all users of the system be properly trained by an authorized dealer. Users must have a valid dental or medical Federal and State issued license – no exception.
- B. While using the bone cutting and turbo mode functions, it is strongly advised to begin use with a low power setting, and then slowly adjust to the desired power setting. This procedure will prevent burns and trauma to the tissue area.
- C. Your safety is very important to us. We strongly advise calling your authorized dealer or representative if there are any doubts or uncertainties about the system's functions or usage.



WARNING



Prohibition

Do not install the iM3 OP1 in the vicinity of a device which emits magnetic waves, such as electro-surgical knives.



Prohibition

The iM3 OP1 may prevent cardiac pacemakers functioning properly. Do not use the equipment on any patient who has a pacemaker. The same requirement also applies to the user.



Risk of explosion

Do not install and/or use the unit in any room that is in the vicinity of flammable material and/or where there is as risk of explosion.



CAUTION



Intended Use

Use for the intended purpose only.



Infection Control

For both the patient and the user's safety, it is essential to ensure that all accessories have been cleaned, disinfected and sterilized.



Wear and Tear of Tips

The tip will grind away as it is used. When it becomes worn, it might vibrate weakly or not vibrate at all. Please replace it with a new one. Do not use a tip that is damaged, altered or rusted. Tips should be replaced every 4-6 months, or as needed.

◆ Personal Injury

Do not press the footswitch of the iM3 OP1 while the cover of the peristaltic pump is removed. Moving parts could pose serious risk to the user.

◆ Hand piece with cord

The hand piece must not be detached from the cord.

**NOTICE****◆ Qualified Personnel**

The iM3 OP1 must be used only by trained and qualified personnel.

◆ Cleaning, Disinfecting, and Sterilizing the Products

Before each use, always clean, disinfect, and sterilize the parts and accessories of this product.

◆ Check the Condition of the Unit Before Treatment

Before using the unit on a patient, always test functionality beforehand. If you detect any problems or irregularities, immediately stop using the unit and contact an authorized iM3 Dental Limited technical service representative.

◆ Prohibition.

Sterilized hand pieces must be allowed to cool to room temperature before using again. In addition, to prevent the possibility of excess moisture shorting out the circuitry, we recommend that you let a sterilized hand piece dry for several hours prior to use.

◆ Accessories.

Do not attempt to connect the iM3 OP1 to any accessories other than those supplied by iM3 Dental Limited.

◆ Important Notice!

Please read all instructions in the user manual prior to use. The safety of the patient is your responsibility. Be safe!

2. DELIVERY

The iM3 OP1 contains electronic components that can be damaged by impact during transportation. Special care must be used to transport and store the unit. All materials shipped by the manufacturer are always checked at the time of shipment to ensure proper padding and protection during transportation.

Parts

Item No.	Description	Quantity
1	Main System	1
2	Piezo Surgery Handpiece with Cord	1
3	Torque Wrench	1
4	Wireless Remote Footswitch (Model : FS-20W)	1
5	Tubing Connector	1
6	Power-Supply Cable	1
7	Basic Tip Kit	1
8	Storage Tray – (For Storage of Accessories)	1
9	Rod for irrigation solution	1
10	Foot Switch Cable	1
11	Irrigation Tubing Set (Disposable)	1
12	Irrigation Tubing Set (Reusable)	(Optional)

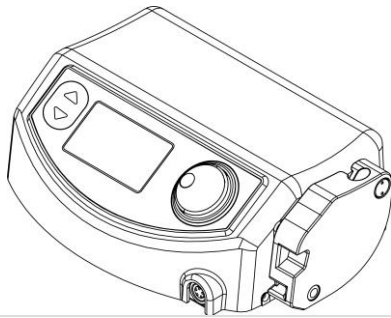


Fig.1-1, Main Unit of the System

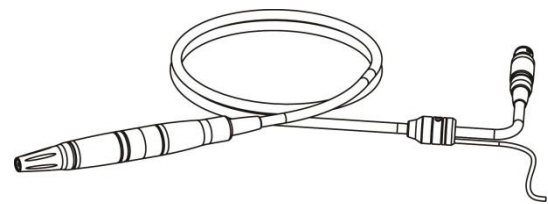


Fig.1-2, Piezo Surgery Hand piece with Cord

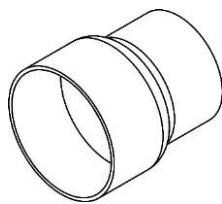
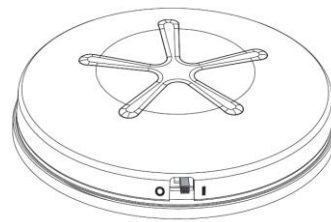
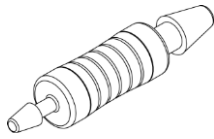


Fig.1-3, Torque Wrench



**Fig.1-4, Wireless Footswitch
(Model : FS-20W)**



**Fig.1-5, Tubing Connector
(Ref. to Fig.2-7).**

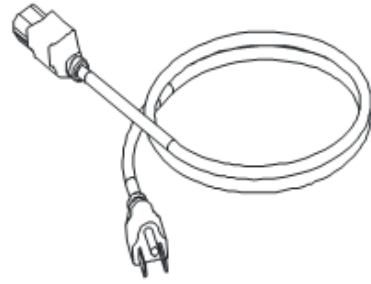


Fig.1-6, Power Supply Cable.

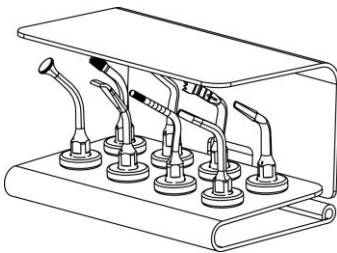
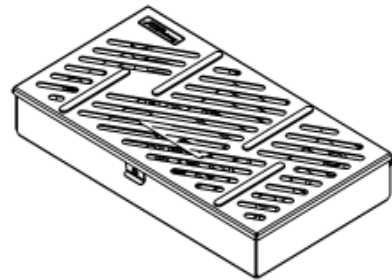


Fig.1-7, Basic Tip Kit



**Fig.1-8, Storage Tray –
(For Storage of Accessories)**

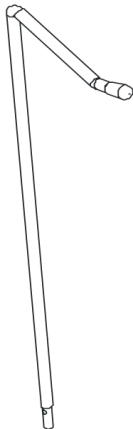


Fig.1-9, Rod for Irrigation Solution

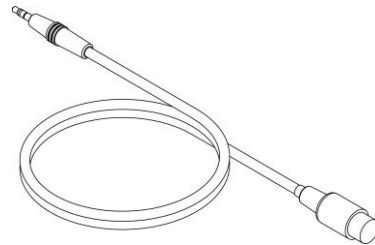


Fig.1-10, Foot Switch Cable

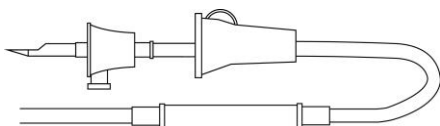


Fig.1-11, Irrigation Tubing Set (Disposable)

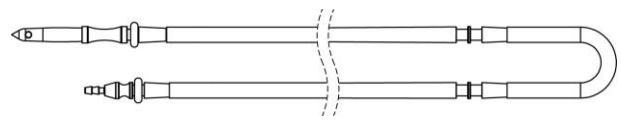


Fig.1-12, Irrigation Tubing Set (Reusable)

3. INSTALLATION

Safety Requirements During Installation



WARNING

◆ **Risk of explosion**

Do not install and/or use the unit in any room that is in the vicinity of flammable material and/or where there is as risk of explosion.



CAUTION

◆ **Personal Injury**

Do not press the footswitch of the iM3 OP1 while the cover of the peristaltic pump is removed. Moving parts could pose serious risk to the user.

◆ **Irrigation Tubing Set (Disposable)**

To ensure sterility before use, check that the package seal is not broken or damaged and that the product is not expired. Do not attempt to use any product that has been pre-opened, appears to have been tampered with or is past the expiry date.

◆ **Electrical system**

This device must only be plugged into a socket/system that utilizes compatible voltage and follows all local codes and ordinances.



NOTICE

◆ **Keep away from water vapor**

Do not expose the unit to water vapor or splashes.

◆ **Keep away from heat sources**

Do not place the device near heat sources. Make sure that adequate space is provided around the unit for ventilation.

◆ **Keep away from UV light**

Do not expose the device to direct sunlight or to sources of UV light.

◆ **No water on cord connections**

Check that there is no water on the device cord connections. Remove any water by wiping or by drying with an air syringe.

◆ **Footswitch position**

Place the footswitch on the ground in an unobstructed, visible position. Make sure that the switch cannot be accidentally pressed or wedged under a solid object, which can result in overheating and damage.

Initial Installation

To ensure optimum performance from the device, only an authorized representative of iM3 Dental Limited should install the device. **If you have any questions or concerns regarding the installation/operation of your device, please contact an authorized iM3 Dental Limited representative.**

Accessory Setup

The accessories listed below must be connected to the device:

1. Insert the irrigation tube into the peristaltic pump as follows:

1.1 Press the button in the lower left corner of the pump and gently move the cover up.

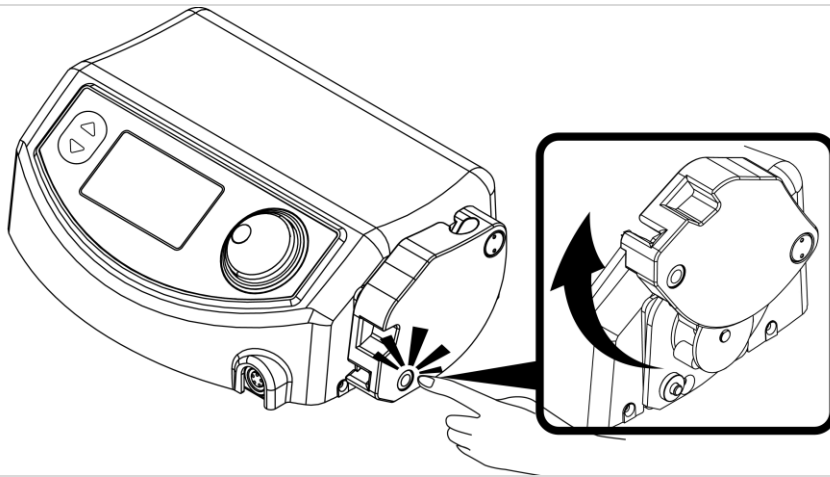


Fig.2 - 1

1.2 Find the end of the irrigation tube that will be connected the bag, and insert the ring on that end of the tube into the right notch of the pump chamber (see B).

1.3 Insert the ring on the opposite end of the irrigation tube into the left notch of the pump chamber (see A).

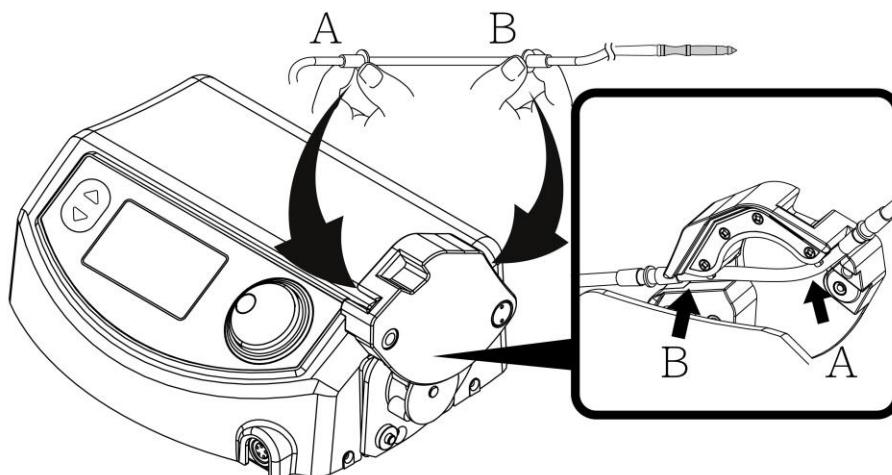


Fig.2 - 2

1.4 Close the pump cover.

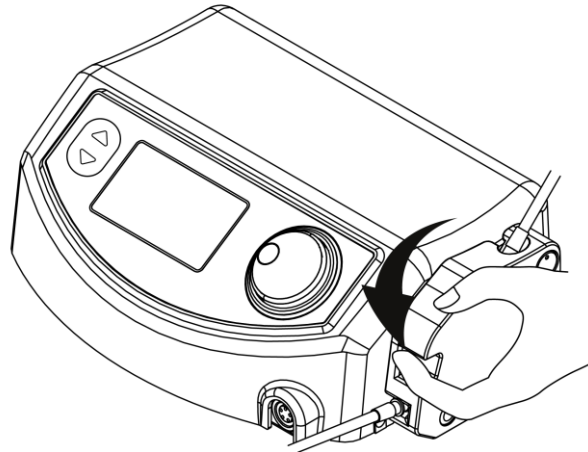
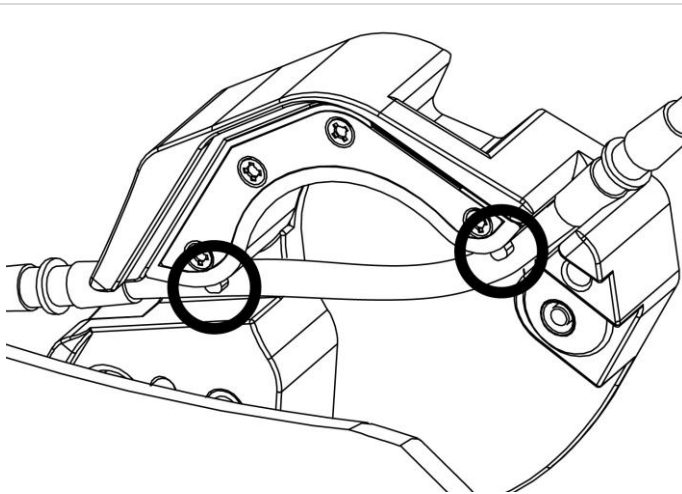


Fig.2 - 3



⚠ CAUTION: Please install the irrigation tube on the inside of the silicon dots to prevent the tube from slipping.

⚠ CAUTION : Personal injury

Do not press the footswitch of the iM3 OP1 system while the cover of the peristaltic pump is removed (Fig.2 - 1). Moving parts could injure the user.

2. Insert the irrigation rod into the slot provided. (Fig.2-4)

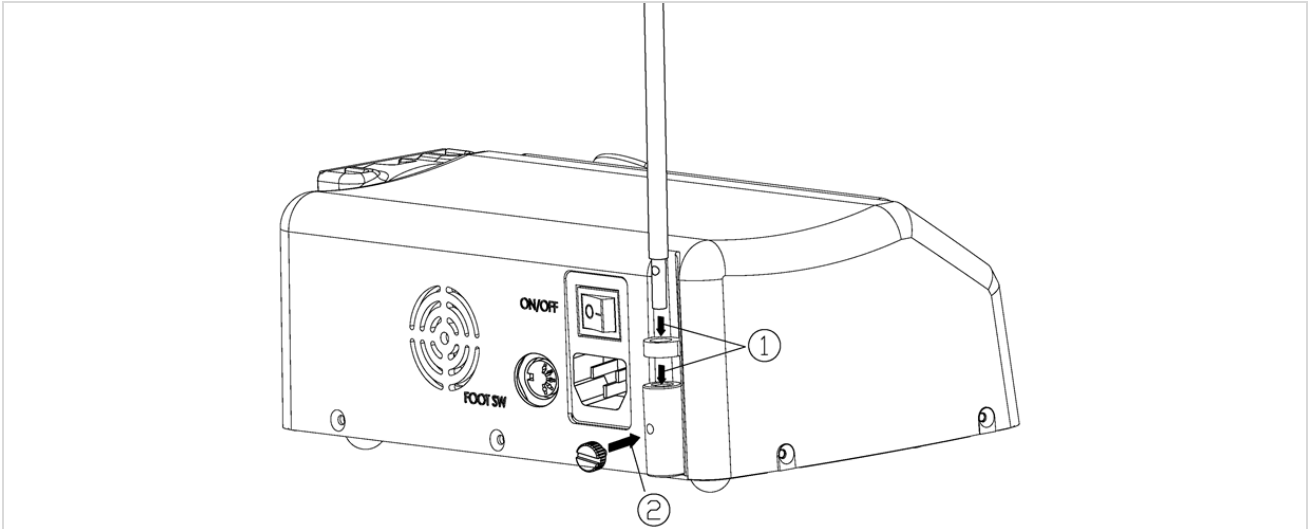


Fig.2-4

- Insert and slide the rod into the slot (1).
- Tighten the rod with the screw (2).

3. Connect the iM3 OP1 hand piece cord to the cord connector on the device (Fig.2-5).

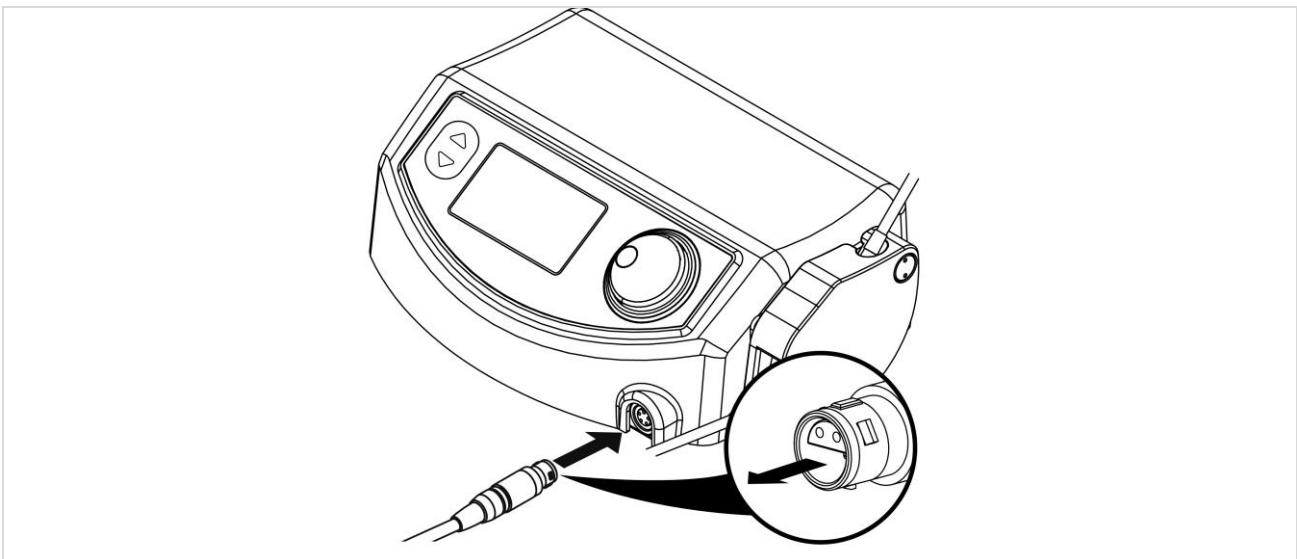


Fig.2-5

4. Installing the Tips

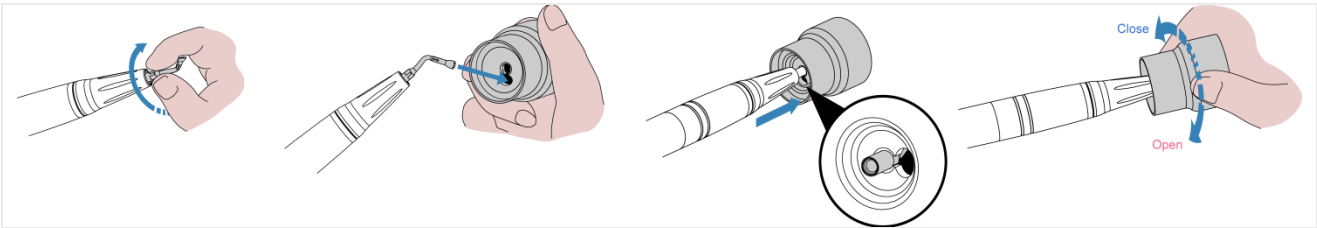


Fig.2-6

- Screw and secure the tip clockwise on the hand piece with your fingers.
- Insert the attached tip into the torque wrench opening.
- Ensure that the root of the tip is in the square opening of the torque wrench.
- Rotate the torque wrench clockwise until it is tight; proceed to rotate the wrench clockwise for 3 more turns. The tip is now secured.

5. Cut off the end of the disposable irrigation tubing (Fig.2-7), and insert the thick side of the tubing connector into the tube. Then, attach the hand piece water tube to the thin side of the connector.

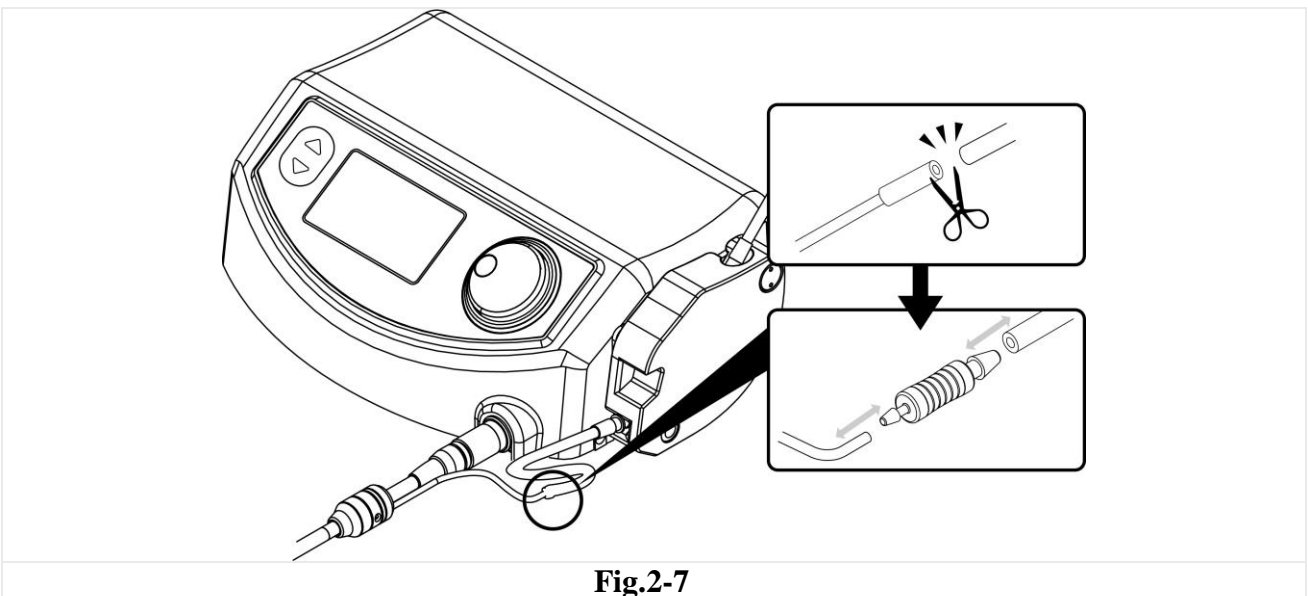


Fig.2-7

6. Connect the end of the irrigation tube to the bag containing the appropriate liquid for the treatment (Fig.2-8).

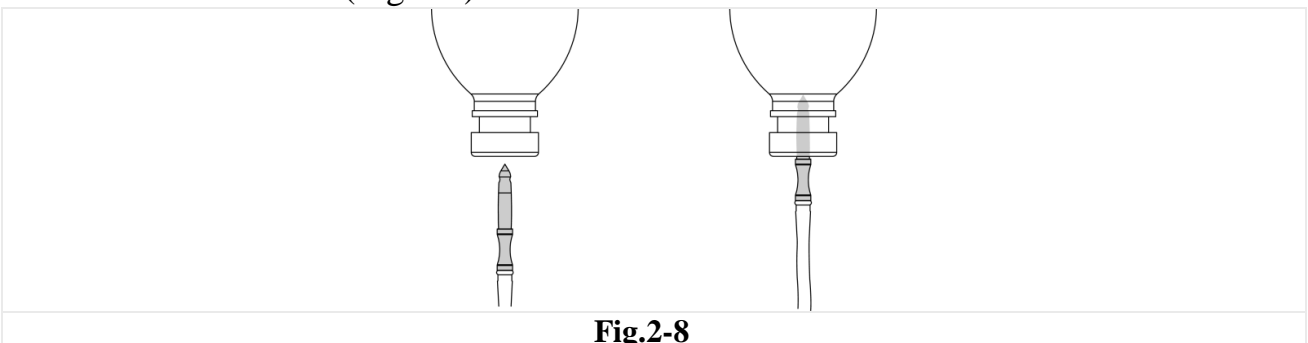


Fig.2-8

7. Plug the power supply cable into the connector on the back of the device (Fig.2-9) and then into the power outlet.

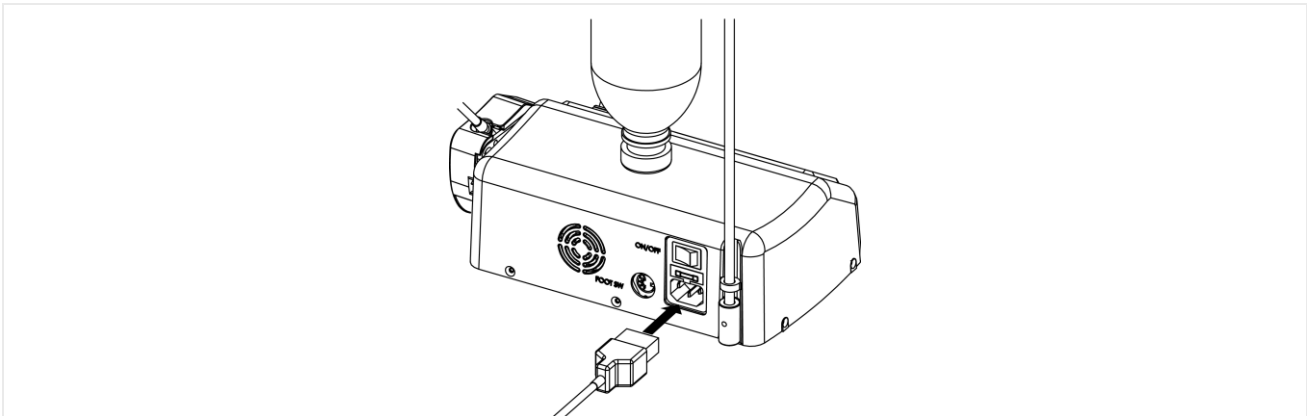


Fig.2-9

8. Position the footswitch so that it is easily accessible for your feet.

There are two methods for footswitch operation :

Cable method	Wireless method
<ul style="list-style-type: none"> ● No battery needed 	<ul style="list-style-type: none"> ● Battery is needed
<ul style="list-style-type: none"> ● Power switch <u>OFF</u> 	<ul style="list-style-type: none"> ● Power switch <u>ON</u>
<ul style="list-style-type: none"> ● Footswitch cable needs to be <u>connected</u> 	<ul style="list-style-type: none"> ● Footswitch cable is <u>disconnected</u>

The power on the footswitch must be switched on before wireless use. To save power, please switch the power off after use. You do NOT need to activate the switch if you are using the Cable Method (wired) mode.

Connect the footswitch to the device by inserting the plug into the footswitch socket (Fig.2-10)

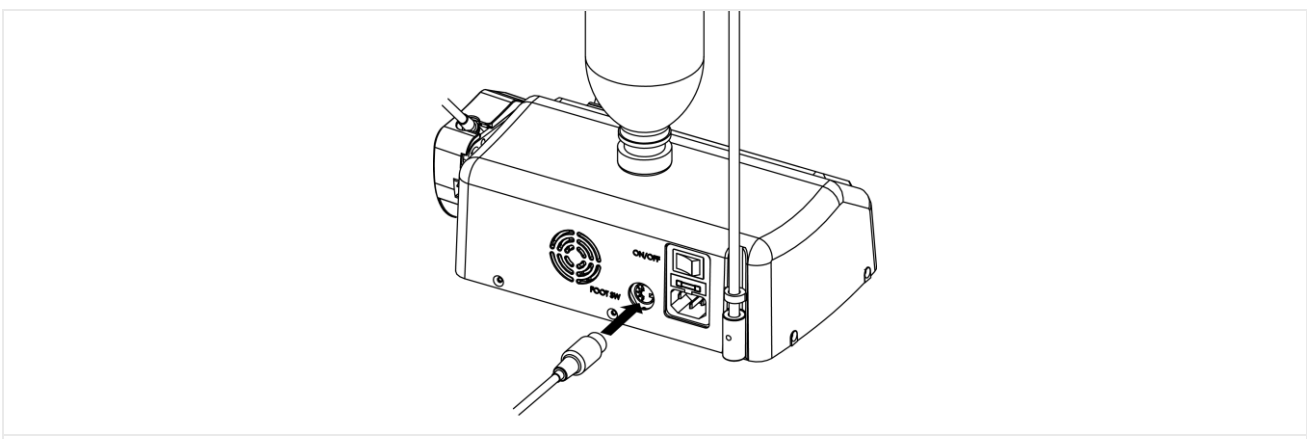


Fig.2-10

4. OPERATION

Controls

This section illustrates parts of the front & rear view (Fig.3-1 & 2) of the iM3 OP1 system.

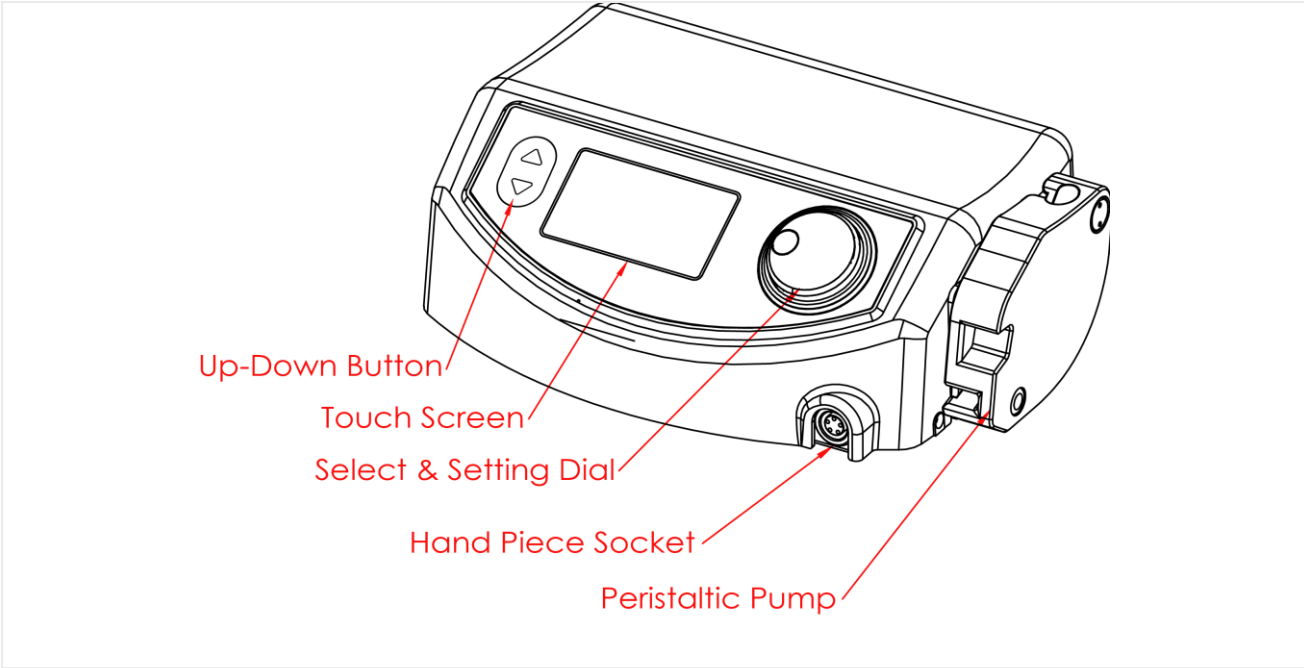


Fig.3-1, Front View of iM3 OP1 System

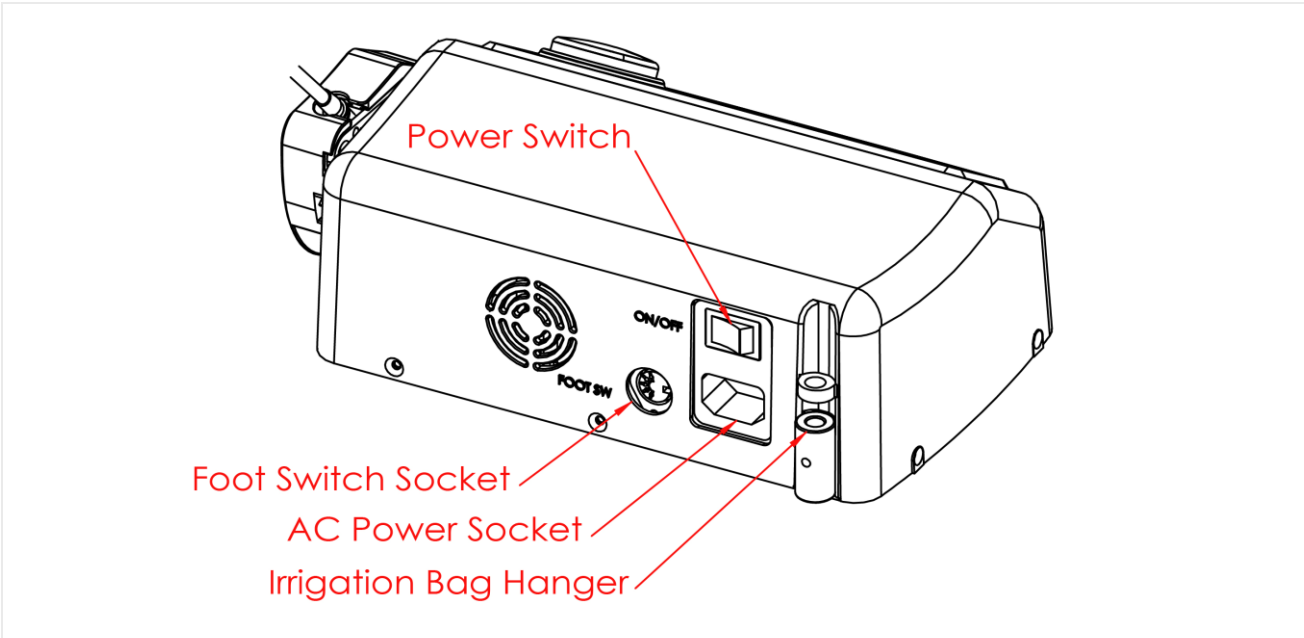


Fig.3-2, Rear view of iM3 OP1 System

Safety Requirements During Use



WARNING



Pacemakers

The iM3 OP1 may prevent cardiac pacemakers functioning properly. Do not use the equipment on any patient who has a pacemaker. This applies to users with pacemakers as well.



CAUTION



Grounded Power Outlet

To avoid the risk of electric shock, please use a grounded power outlet.



Wear and tear of tips

The tip will grind away as it is used. When it becomes worn, it might vibrate weakly or not vibrate at all. Please replace it with a new one. Do not use a tip that is damaged, altered or rusted. Tips should be replaced every 4-6 months, or as needed.



Tip contact

Never allow the vibrating tip to touch any prosthesis such as ceramics or metal. Contact with these surfaces might cause breakage or deformation.



Flush function

The Flush function must be used after every procedure to avoid buildup of saline and minerals. Failure to flush the unit after every use could lead to clogged lines and possible damage to the system.



NOTICE



Cleaning, Disinfecting, and Sterilizing the Products

Before each use, always clean, disinfect, and sterilize all parts and accessories.



Hand piece maintenance

Sterilized hand pieces must be allowed to cool to room temperature before using again, and should be completely dry before re-inserting into the unit. Failure to do so could result in electrical damage to the hand piece and socket.



No Water on Cord Connections

Check that there is no water on the device cord connections. Remove any water by wiping or by drying with the air syringe.

◆ Modifications

No modification of this equipment is permitted. Any aftermarket modification will result in a full termination of all manufacturer and retail warranties. Modification could potentially endanger the operator and the patient.

◆ Position of the equipment

Please place the equipment in such a manner that cords and cables are not an operational hazard. Never use any cord or cable as a grip to reposition the device. This could result in crimped internal lines and loss of function.

◆ Spray treatment

For spray treatment, please only use inserts designed for liquid spray treatment.

◆ Calibration

To calibrate the unit prior to each use, it is necessary to press the footswitch and let the tip vibrate momentarily prior to making contact with the part to be treated. This will allow the electronic circuit to detect the optimal resonance point of the tip without interference, thus enabling optimum performance

Switching the Device ON and OFF

Turning ON the Device

- 1 Turn the device on by pressing the “1” side of the POWER SWITCH (Fig.3-2) located on rear side of the device.
- 2 The device should power up.

Turning OFF the Device

- 1 Turn the device off by pressing the “0” side of the POWER SWITCH (Fig.3-2) located on rear side of the casing of the device.
- 2 The device should power down.

Display and Functions

This section explains the operation of all icons shown on the iM3 OP1's touch screen and their operation setting. The main page (with all icons) is shown as Fig.3-3 :

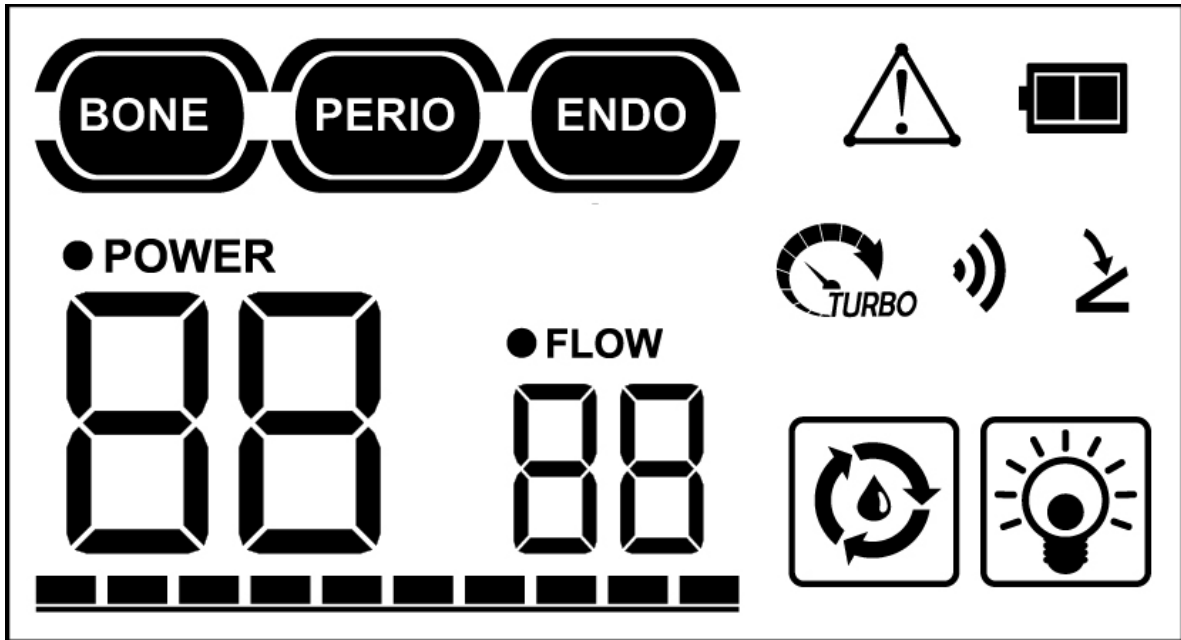


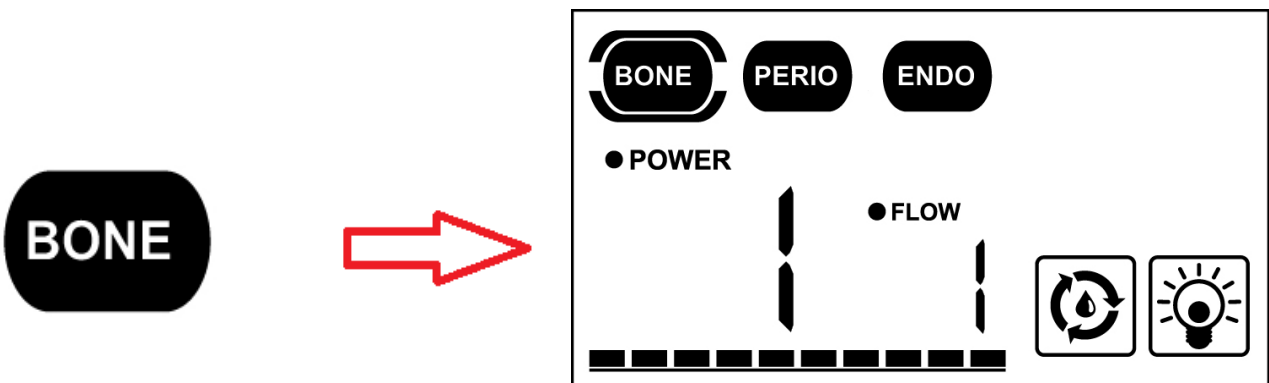
Fig. 3-3, The Operation Main Page of iM3 OP1 System

The operation of the touch screen :

Program operation

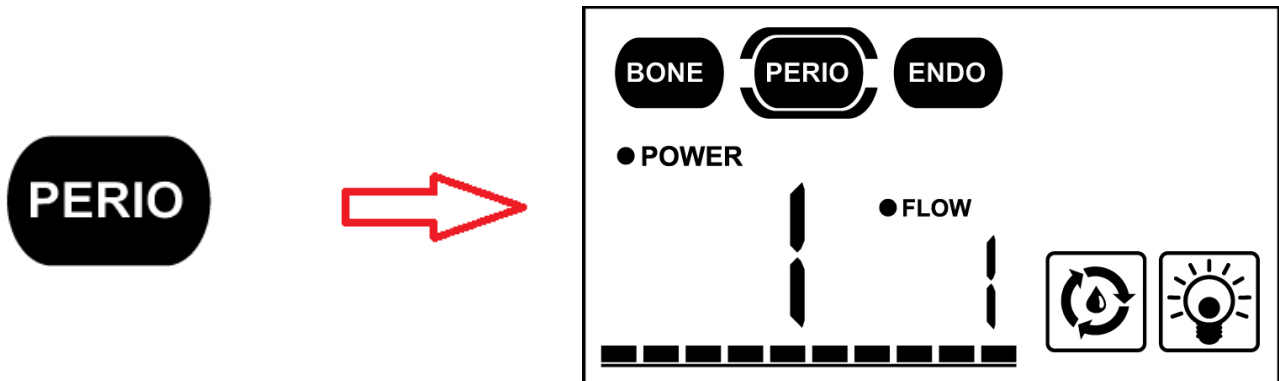
A. Bone Cut Mode

To begin Bone Cut Mode, gently touch the “BONE” icon on the operation main page. The screen should display power output and flow as shown in the image below.



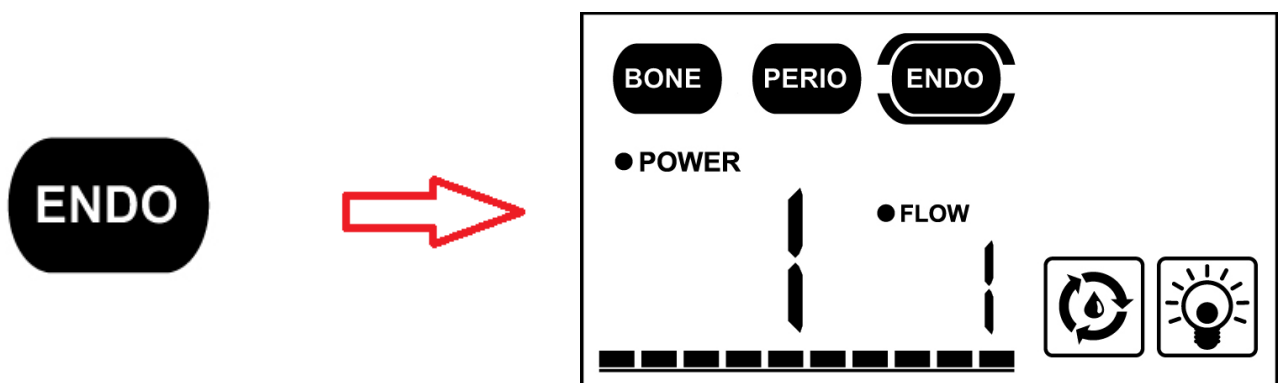
B. Perio Mode

The icon “PERIO” will begin the perio operation. The screen should display power output and flow as shown in the image below.



C. Endo Mode

The icon “ENDO” will start the endo operation. The screen should display power output and flow as shown in the image below.



Power setting:

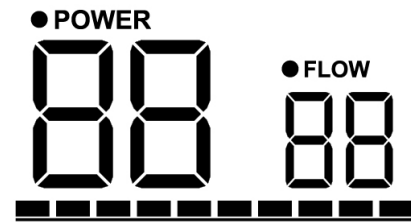
Press the “●POWER” icon on screen. The “●POWER” icon should flash for 10 seconds. Then you can rotate the dial clockwise and counter-clockwise or press the up-down button (▲/▼) to increase and decrease the power setting.

- Bone Cut mode is limited to a maximum power setting of 30.
- Perio mode is limited to a maximum power setting of 18.
- Endo mode is limited to a maximum power setting of 9.

In Bone Cut Mode, if the power is set above 20, the turbo icon will display on the screen to remind the user.



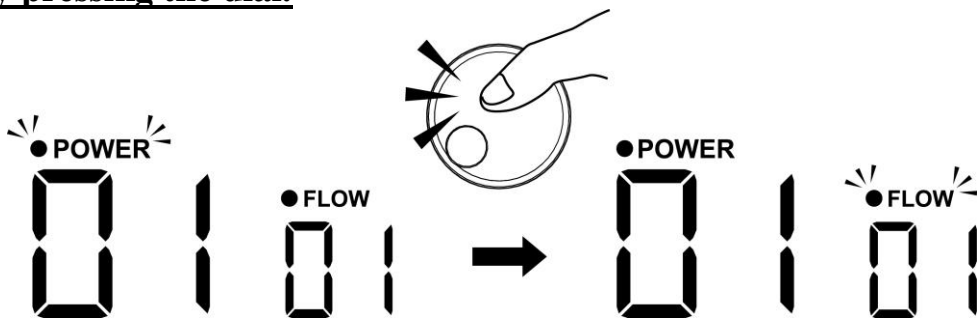
The dotted line below the power and flow icon represents the percentage of setting power.



Flow setting:


Touch the “●FLOW” icon to adjust the water level. The “●FLOW” icon should flash for 10 seconds. Then adjust the flow setting by rotating the dial clockwise and counter-clockwise or pressing the up-down button (▲/▼).

Quick guide: For user convenience, you can switch between the power and flow setting by pressing the dial.



Flush

The flush function must be carried out after using the device, before cleaning, disinfecting and sterilizing all the parts.


To activate the Flush function, press the  icon on the screen. The process time is 5 minutes. During the flush process, the arrows of the flush icon will rotate as follows :





The operator can interrupt the process through the following methods:

- Press the  icon on the screen.
- Press the dial.
- Step on the footswitch once.







LED hand piece on/off switch

To turn the LED light on the hand piece on/off, press the  icon. The following icons will indicate the on/off status of the LED on the hand piece.

	Hand piece LED light is on.
	Hand piece LED light is off.

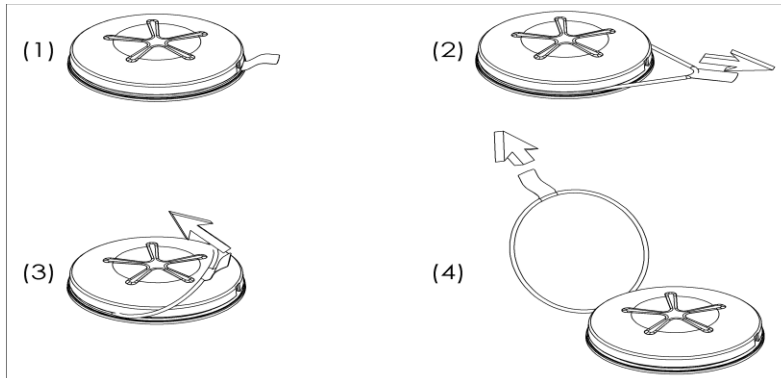
The default setting for the Light Function is ON.

Icon explanations

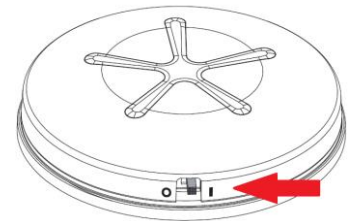
	Foot switch is used (in cable mode).
	Foot switch is used (in wireless mode).
	Status of footswitch battery power : high level.
	Status of footswitch battery power : middle level.
	Status of footswitch battery power : low level.
	The icon will light up when abnormal behavior is detected.

Footswitch (FS-20W)

Before using the foot switch (FS-20W), please remove the safety ring. To remove the safety ring, follow the instructions in the image below.

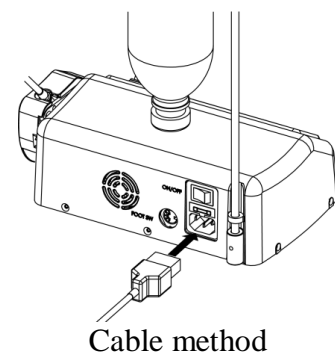


The power must be switched on before wireless use (SEE RIGHT). To save power, please switch the power off after use.



There are two methods for footswitch operation :

Cable method	Wireless method
● No battery needed	● Battery is needed
● Power switch <u>OFF</u>	● Power switch <u>ON</u>
● Footswitch cable needs to be <u>connected</u>	● Footswitch cable is <u>disconnected</u>



You do NOT need to activate the switch if you are using the Cable Method (wired) mode.

When battery power is low, the empty battery icon will appear on the screen. Please replace with a new battery.



Please note that the indicator is not 100% accurate and the footswitch may still work for a period of time after the empty battery icon appears on the screen. If you are unable to replace the battery in a timely matter, you may switch to the Cable Method (shown above).

5. CLEANING, DISINFECTION AND STERILIZATION

Flush function - cleaning the liquid circuit

The Flush function should be used to clean the liquid circuit. Please take note of the following safety warnings and requirements below.



CAUTION: Hand piece must not be detached from the cord.



CAUTION: The liquid circuit tubes must be cleaned thoroughly. Failure to do so will damage the equipment due to crystallization of salts.

Use the Flush function (See OPERATION section) to clean the hydraulic circuit prior to cleaning, disinfecting, and sterilizing all parts. This function **must** be performed after each use. Please read the instructions below on preparing your device for cleaning.

1. Disconnect the irrigation tube from the irrigation bag.
2. Place the tube in a water-filled container (distilled water is recommended).
3. Place one insert into the hand piece.
4. Place the hand piece over a bowl. The bowl will catch water drained from the flush cycle.
5. The system is now ready to use the Flush function. The Flush function can be used for 1 minutes. For instructions on using the flush function, please see the OPERATION section.

Cleaning and Disinfecting the Device Casing



NOTICE: The iM3 OP1 system is not waterproof.

Do not spray water or other liquids directly onto the surface of the system.



CAUTION: Turn off the Device.

The device must be switched OFF and disconnected from the power outlet before cleaning and disinfection procedures.



CAUTION: The device cannot be sterilized.

After each treatment, clean and disinfect the device surface, cords, and connectors with cloth and mild detergent or disinfectant. Please use solutions with a neutral pH (pH 7) and follow the manufacturer's instructions for effective cleaning. Alcohol-based disinfecting solutions may cause discoloration and damage the case.

Remember to remove tips from the hand piece prior to cleaning.

Sterilization Procedures

- **Steam Autoclave must be used for Sterilization.**

Do not use any other method of sterilization (radiation, ethylene oxide, gas, low-temperature plasma, dry heat etc.).

- **Parts that can be sterilized.**

In order to avoid cross infection between patients, bacterial or viral infections, always sterilize the following parts after each treatment:

1. **Hand piece with Cord (Fig. 1 - 2)**
2. **Torque Wrench (Fig. 1 - 3)**
3. **Tubing Connector (Fig. 1-5)**
4. **Tips & Tip Set Holder (Fig. 1 - 7)**
5. **Irrigation Tubing Set (Reusable, Fig. 1 -12)**

The parts listed above contain materials that will withstand a maximum temperature of 135°C for 3 minutes and should take approximately 20 minutes to dry. Place items numbered 1 through 4 from the list above into the Storage Tray (Fig.1-8) for sterilization.



CAUTION

- ◆ **Hand piece with cord**

The hand piece must not be detached from the cord.

- ◆ **Property Hazard**

Do not dip the hand piece in liquid (including disinfectant solution). Doing so will irreparably damage the hand piece.

- ◆ **Property Hazard**

Remember to remove tips from the hand piece prior to sterilizing.



NOTICE

- ◆ **No Water on Cord Connections**

Check that there is no water on the device cord connections. Remove any water by wiping or by drying with the air syringe.

- ◆ **Property Hazard**

After sterilizing, allow the hand piece to dry completely prior to use. Failure to do so could result in blown hand piece and footswitch sockets due to moisture.

- ◆ **Property Hazard**

When disinfecting, please use a water-based disinfectants with a neutral pH. Alcohol-based disinfectants may cause discoloration and damage the hand piece.

◆ Property Hazard

Prior to sterilizing, please make sure that the tip is completely dry.

Cleaning, Disinfecting and Sterilizing the Accessories

Please follow the steps below to prepare the accessories for sterilization.

1. Carefully clean the items as following :
 - (1) **Hand piece** : Pay special attention to the threaded pin and ring-shaped cavity when cleaning. The threaded pin is where the tips are screwed into place.
 - (2) **Torque Wrench**
 - (3) **Tubing Connector**
 - (4) **Tips** : Use an ultrasonic tank to clean and rinse with distilled water. Then dry prior to sterilization.
 - (5) **Irrigation Tubing Set (Reusable)**
2. Disinfect with a mild water-based disinfectant containing a neutral pH.
3. Dry the accessories thoroughly, preferably with an air syringe, paying special attention to the cord connections of the hand piece(s) and the hole of the tips).
4. Place the tips in the Tip Set Holder.
5. Place the disinfected accessories into the storage tray.

As an alternative, you may also use individual sterilization bags to seal the torque wrench, tubing connector and tips.

6. Start the autoclave machine.

6. REGULAR MAINTENANCE

Device Checkup & Maintenance

1. Check the condition of the tips periodically. Tips should be replaced every 4-6 months, or as needed.
2. Do not alter the shape of the tips by bending or filing them.
3. Replace any tip damaged or reshaped by impact.
4. Always make sure that all threaded parts and their contact surfaces are perfectly clean.
5. If a tip is worn out, the device will not work.

Shelf Storage

If the iM3 OP1 system is left unused for several days, follow the instructions below to before using.

1. Disconnect the device from the main power outlet.
2. Execute the Flush function to perform a thorough cleaning cycle on the water circuits.
3. Disinfect and sterilize the unit.

7. BATTERY REPLACEMENT FOR FS-20W

Follow the steps to replace battery.

1. Unscrew 3 screws on the back of the round foot switch (Fig.5-1).
2. Open the round metal plate. The battery should now be visible (Fig.5-2).
3. Remove the battery from one end (Fig.5-3).
4. Insert a new battery (pay attention to polarity).
5. Cover with the round metal plate and position the screws to match the holes.
6. Tighten all 3 screws.

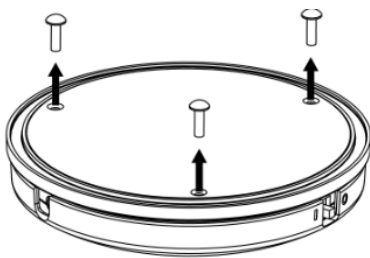


Fig 5-1

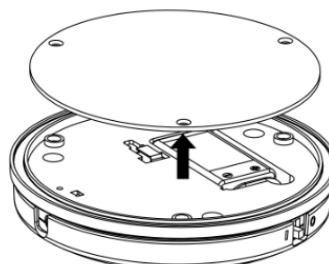


Fig 5-2

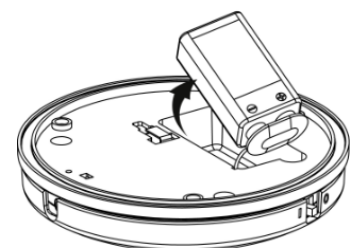


Fig 5-3

8. FUSE REPLACEMENT

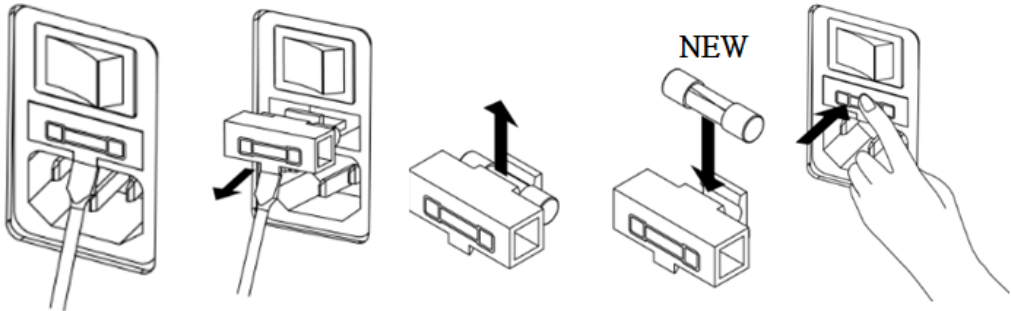
⚠ CAUTION: Turn off the Device.

Prior to replacing the fuses, remember to turn off the device and disconnect the device from the power outlet. Please only use the power switch to turn off the device (Fig. 3-2).













NOTE: A UNIT THAT IS BLOWING FUSES WILL OFTEN HAVE A DEEPER ISSUE. PLEASE CONTACT A LICENSED iM3 DENTAL LIMITED REPRESENTATIVE IF YOU HAVE ANY QUESTIONS.

Follow the instructions below to replace fuses. Replacement fuses must be specified as 250Vac /T2A.

1. Insert the tip of a flat screwdriver into the recess of the fuse compartment located below the power socket.
2. Use the screwdriver as a lever and pull out the fuse compartment.
3. Replace the fuse.
4. Secure the compartment back into place.



9. SYMBOLS

	CE Mark		Fragile; handle with care		Type BF equipment
	Manufacturer		Keep dry		Grounded terminal
	Date of manufacture		This side up		Serial number
	Authorized representative in the European Community		Requires immediate attention		Consult instructions for use

10. STANDARD SURGICAL TIPS

Included tip package may vary among sales regions.

Item Code: BM-EX01



Identification: Flat scalpel for root extraction.

Surface: Sharp. Three-sided.

Description: For root osteoplasty, for cutting of the Ankylosis thru root fraction techniques and removal of teeth in bone inclusion.

Note: This tip has a limited life span and should not be re-sharpened when dull.

Item Code: BM-OT5

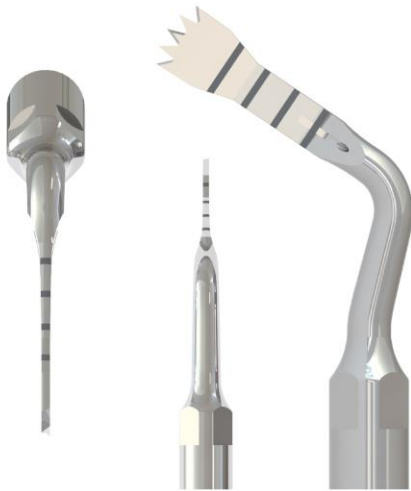


Identification: Smoothing Osteotome

Surface: Diamond-coated. Medium grain.

Description: Non-traumatic osteotome for final osteotomy on thin bone and/or near delicate anatomic structures. Use the alveolar nerve transposition technique to finalize the osteotomy close to the mandibular nerve.

Note: When the diamond chips wear out, cutting may become less effective and temperature may increase.

Item Code: BM-RS01

Identification: Bone saw

Surface: Scalpel edge marked at 3, 5, 7, and 9 mm.

Description: Scalpel for all the osteotomy techniques. Osteotomy for ridge expansion and bone block grafting.

Note: This tip has a limited life span and should not be re-sharpened when dull.

Item Code: BM-SL01

Identification: Sinus membrane separator

Description: Use for sinus membrane separation at about 2mm frame of Bony Window.

Note: To increase the life span of this tip, please use on low power settings. High power settings may be used however when residual bone edges need to be removed.

Item Code: BM-HB01



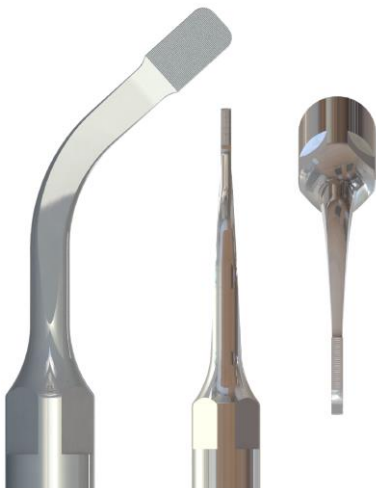
Identification: Bone osteoplasty.

Surface: Sharp on all 3 sides.

Description: For osteoplasty and/or harvesting of bone chips, bone remodeling and harvesting of cortical bone chips.

Note: The tip has a limited life span and should not be re-sharpened when dull.

Item Code: BM-OT1



Identification: Flat Window Osteotome

Surface: Diamond-coated. Medium grain size

Description: Non-traumatic osteotome for osteotomy on very thin bone and/or near delicate anatomic structures. Use to finalize osteotomy for bony window preparation in maxillary sinus surgery and to perform gentle osteotomy close to the nerve.

Note: Do not use the tip for more than 10 applications. Doing so will result in a significant temperature increase.

Item Code:BM-HB02

Identification: Bone osteoplasty, osteotome.

Surface: Sharp at the perimeter.

Description: For bone chip harvesting, inflammatory tissue removal, crown lengthening, and periodontal osteoplasty.

Note: The tip has a limited life span and should not be re-sharpened when dull.

Item Code: BM-OT4

Identification: Cylindrical Smoothing Osteotome

Surface: Diamond-coated. Large grain.

Description: Used for final osteotomy of the implant site. Also used for final preparation (1-2mm) of the implant site near delicate anatomic structures (lower alveolar, sinus membrane), and to finalize the implant site preparation close to the alveolar nerve. Implant site preparation for the crestal approach in sinus lift surgery.

Note: When the diamond chips wear out, cutting performance will decrease and temperature will increase.

11. TROUBLESHOOTING GUIDE

If your device seems to be working incorrectly, please use the troubleshooting chart below.

SYMPTOM	POSSIBLE CAUSE	ACTION TO TAKE
The device does not turn on when the switch is positioned on “ON”.	<ol style="list-style-type: none"> 1. The power cord is dislodged. 2. The unit is malfunctioning. 	<ol style="list-style-type: none"> 1. Check that the cord is fully seated in the unit and outlet. 2. Contact an authorized iM3 Dental Limited representative.
The device is turned on, but does not work.	<ol style="list-style-type: none"> 1. The foot switch is not functioning. 2. The unit is malfunctioning. 	<ol style="list-style-type: none"> 1. The foot switch battery may be low on power. 2. Contact an authorized iM3 Dental Limited representative.
No liquid or water comes out of the tip during operation.	<ol style="list-style-type: none"> 1. The irrigation bag is empty. 2. The irrigation tube is blocked or kinked. 3. The tip is clogged. 4. The hand piece is clogged. 	<ol style="list-style-type: none"> 1. Replace the irrigation bag. 2. Make sure nothing is clogging the irrigation tube. 3. Free the passage in the tip where the water passes. 4. Contact an authorized iM3 Dental Limited representative
No atomization	<ol style="list-style-type: none"> 1. Tip is not screwed in properly. 2. Tip is deformed or worn 3. Fluid flow rate is poorly adjusted. 	<ol style="list-style-type: none"> 1. Re-screw the tip back in again. 2. Replace the tip. 3. Adjust the flow rate.
No ultrasound output	<ol style="list-style-type: none"> 1. Tip is not screwed in properly. 2. Hand piece is faulty. 3. Cord is damaged. 	<ol style="list-style-type: none"> 1. Screw the tip back in. 2. Replace the hand piece. 3. Replace the cord.
Ultrasound is too strong or weak.	<ol style="list-style-type: none"> 1. Tip is not screwed in properly. 2. Tip is deformed or worn. 3. Hand piece is faulty. 	<ol style="list-style-type: none"> 1. Screw the tip back in. 2. Replace the tip. 3. Replace the hand piece.

Technical Support and Repair:

For technical support and assistance in Europe, call 353 (0)16911277 Monday through Friday, 9:00 AM to 5:00 PM (Pacific Standard Time). For other areas, contact your local dealers.

12. TECHNICAL DATA

● Power supply	115V ±5% ~50/60Hz 40VA 230V ±5% ~50/60Hz 40VA
● Working Frequency	26KHz ~ 32KHz
● Delivery Rate of the Peristaltic Pump	Max. 80ml per min
● Dimension	18.5cm(L) x 28.5cm(W) x 9cm(H)
● Rod for Irrigation Solution	45 cm
● Weight	3.4 Kg ± 0.5Kg
● Hand piece Cable	250 cm
● Footswitch Cable	250 cm
Operation Environment	
● Temperature	0 °C~40 °C
● Relative Humidity	10% ~ 90% (non-condensing)
Transport and Storage conditions	
● Temperature	0°C~60°C
● Relative Humidity	10% ~ 90% (non-condensing)
● Atmospheric pressure	860~1060 hPa

Subject to change without notice.

13. PRODUCT DISPOSAL

Please follow all state and regional ordinances regarding disposal of electronic and surgical devices for your area.