FS-100S Medical Infusion Monitoring System

User Manual
Dear users:

First of all, we appreciate your trust and support to our products. “Wisdom creates value, science and technology benefits all the people” is our company's principle. Your requirements are take into consideration from product creative inventions, design, production, sales, after-sales service and every aspect. In the process of product design and production, we strive to give you the most perfect product and accordance with ISO 9001 and ISO 13485 International Quality System as demands. In the process of using product, please strictly follow the instructions of the user manual for proper operation. If you have any quality problems in the using process, please contact with local agency promptly or contact us directly with your warranty card, the customer service would like to provide the best (prompt and satisfactory) service to you.

Hangzhou Freer Tech Co., Ltd
# Catalogue

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Chapter 1  FS-100 Medical Infusion Monitoring

Instrument Introduction

Welcome to use FS-100 Medical Infusion Monitoring Instrument, which is produced by Hangzhou Freer Tech Co. Ltd. The user manual mainly provides users with the operation guide and regular maintenance of the device, which details FS-100 Medical Infusion Monitoring Instrument including the performance index, the function and the product maintenance. Therefore, please read the user manual carefully for a proper usage.

FS-100 Medical Infusion Monitoring Instrument, sense of liquid drops by the infra-red sensor, to monitor the dynamic infusion process. A corresponding signal to infusion patients and nurses when IV fluid too slow. Also a corresponding signal to infusion patients and nurses when IV fluid is too fast, and it will auto-adjust the IV fluid to a normal range for protection. When the drop stopped, it will closure infusion tube for safety protection and a corresponding prompt to infusion patients and nurses by voice etc. To prevent the tube without medicine liquid and back to blood or input bubble, so as to improve infusion safety and nursing service quality.

The product can be used individually, or work in wireless networking.

1.1 The Structure and Components of the Product

The instrument is mainly composed of a circuit board, batteries, motor and its mechanism, LCD, speaker, positioning ring and a lifting wheel, buttons, charge port
and charge indicator lamp, and etc. The device may have build-in wireless communication module when it is in networking.

For the convenience of charging, the device is provided with Android mobile phone universal charge port. Various types of Android mobile phone adapter can be the charging equipment, as long as its output is 5VDC/0.5A and electrical safety conforms with relevant standards.

![Diagram of parts explanation chart]

**1.2 The basic parameters of the product**

- Ambient temperature: 5°C-40°C
- Transport storage temperature: -10°C-55°C
- The normal operation of environmental relative humidity: ≤80%
- Transport storage relative humidity: ≤95%
- Dimensions: 97x66.5x22 (26.5) mm
- The shell material: ABS
- The positioning ring and the Lifting Wheel material: ABS or Aluminum Alloy
- The Adjustable Push Top material: Aluminum Alloy.
- The wireless module transmission distance: ≥15 m
- The wireless module transmit power: ≤100 mW
- Equipment weight: 108g,±5% (with battery)
The battery single endurance life: The design of battery capacity is more than 1200mAh, 4.2VDC; There is no power consumption in the off state; It’s working power is about 20-40mA; The using time of the battery is about 30hours after a single full charge.

1.3 Key Performance Index

FS-100 Medical Infusion Monitoring Instrument has the function of counting drops effectively ranging from 10 to 120 drops/min. The infusion pump should be suggested if infusion speed is beyond the range.

Drops count range for the device as follows:

- Low-speed Zone: 10-20 drops/min
- Middle-speed Zone: 21-60 drops/min
- High-speed Zone: 61-120 drops/min

Chapter 2 Operation Instructions

2.1 Basic Operation

2.1.1 Instructions for switching on the device

When the nurse finishes the basic infusion operation, such as puncture and adjusting the drop speed by Manual-adjust Wheel, the medical infusion monitoring instrument can start to work.

First, let the front side of the device face to users. Meanwhile, users hold the device and the Murphy's dropper at the same time, as shown in Pic.2. Second, push the dropper into the device and keep pushing upward to fit the Positioning Ring, then stretch the tube into the under hole to tight up the device and the dropper together. The device is set up, as shown in Pic.3.
Third, confirm the dropper’s outlet and “Nozzle Datum Line” keeps in a horizontal level. If not, adjust the Lifting Wheel to the horizontal level with each other in order to get the best detecting visual angle.

Fourth, press the ON/OFF button for at least one second to turn on the device, then the LCD screen lit up and displays relevant function symbols. Meanwhile, the Adjustable Push Top moves forward to the prepared position and half-surrounds the tube with a curved angle to tight up the device and the tube together. After that, the screen displays READY, as shown in Pic.4, then the nurse can loosen the tube. The installation is done.

When the device senses liquid dropping, it will display the current number of the Dynamic Count, eg. 63 drops/ min (as shown in Pic.5).

The nurse may adjust the Manual-adjust Wheel to make the Dynamic Count in a proper drops count range such as 55/60/65 drops per minute, as shown in Pic.6. Press
the OK button to capture the proper counting number, for example, 66 drops per
minute, which is called benchmark” or “Set Value”, as shown in Pic.7. The number of
the Set Value will display in the left corner of the screen as the basic instruction speed
of this round infusion.

If the nurse did not set the Set Value, the device will auto-capture the number as the
Set Value from the 60 second once it is stable.

After “Set Value” is set, it will be regarded as invalid to repress the OK button, which,
however, will activate the backlight keep lighting for 15 seconds so as to conveniently
check for its working status when the screen is dimming out. Press the OK button for
at least one second to cancel the former set and set a new one.

The device will auto-generate Upper Limit and Lower Limit once the Set Value is set.
Based on the Set Value, It will generate the Upper Limit at 50% excess upward and
the Lower Limit at 50% excess downward.( The default drops count range can be
adjusted according to the users’ demand.) Besides, users can manually set the drops
count range by central computer interface, Phone APP, PDA and etc. when it is in
networking. The drops count range within Upper Limit and Lower Limit is considered
as “Safety Speed Range of Infusion”

If the Upper Limit generated automatically by program or set by nurse exceeds 120
drops/min, the program will set 120 drops/min as default. If the Lower Limit lower
than 6 drops/min, then 6 drops/min will be set as default.
The backlight of the screen will dim out in 15 seconds after the Set Value is set and the device will start to work automatically.

### 2.1.2 Mute Setting

There are two types of the device: the Single-device & the network-device.

The Single-device without networking system, its Speaker will stay “ON” by default for a better notice.

The network-device with networking system, its Speaker can be turned OFF/ON which controlled by users through Central Monitoring Station & Mobile Monitoring Device to different operation circumstance. While, in the mute mode, the Speaker will be activated automatically when the device fails to work or be in low-power condition.

### 2.1.3 Reset Operation

If you want the dropper to work with the Set Value while in Pause mode, press the RESET button to cancel the Safety Control Mode.

After pushing the RESET button, the device will warn you “Device reset, control speed, please!” But the voice message occurs only once in order not to disturb users.
In the meantime, the Adjustable Push Top will reverse to the prepared position when the device has received the Reset instruction. The screen shows “CONTROL” for speed warning and the backlight dims out 60 seconds later, as shown in Pic.9

Be careful that the infusion halts caused by a variety of factors to probably make the Manual-adjust Wheel in an incorrect state. Therefore, you should manually control the speed through the Manual-adjust Wheel to ensure that the Dynamic Count agrees with the Set Value generally.

2.1.4 Instructions for Switching Off the Device

When the infusion is completed, the nurse can turn off the device. Press the ON/OFF button for at least one second to turn off the device. If it fails, press ON/OFF button again, as shown in Pic.10.

![Pic.10: Shutdown Operation](image1)

![Pic.11: Uninstall the Dropper from the Device](image2)

If you want to force a shutdown to close the crashed program, press 【OK】button five times, each of which lasts at least 1 second.

The nurse can remove the device according to the installation instructions, as shown in Pic.11.
2.2 Functions and Applications

2.2.1 Excessively High Drop Speed

When the drop speed exceeds the Upper Limit, the backlight will glow and the parameter will twinkle. In case of more than 15 seconds’ over speed, the screen will display “TOO FAST”. And backlight flashing. (Voice sign is available according to user’s needs)

At the same time, the device will lower the Dynamic Speed automatically to the safety speed range so that the insecurity infusion is prohibited.

As the speed restores, the warning disappears and the backlight dims out 15 seconds later.

The effectiveness of the device is 10-120 drops/min. it is suggested to use infusion pump, if the IV speed range is out of 10-120 drops/min. Because disposable IV sets have different elasticity of tube, which may lead to error or failure of speed adjustment, especially in low speed infusion condition.

2.2.2 Excessively Low Drop Speed

The false infusion may happen due to the natural attenuation of speed that commonly existed in the whole process of the infusion or other factors such as change of patient’s position, the relative height between the patient and the infusion bag, the tube being stretched or squeezed and the hematoma in the infusion part of the patient’s body, and etc.

When the drop speed exceeds the Lower Limit, the backlight will glow and the parameter will twinkle. In case of more than 15 seconds’ low speed, the screen will display “TOO SLOW” and backlight flashing. As well as voice signs: Too slow, Call
for nurse, please. (Voice sign is available according to user’s needs.), the voice sign will prompt again in the fifth minute, tenth minute and so on.

As the speed restores, the warning disappears and the backlight dims out 15 seconds later.

In most cases, the main reasons for slow speed include: the hematoma in the infusion part of the patient’s body or needle malposition, it’s necessary to notice nurse to handle it immediately. Therefore, the device working logic is “only auto-adjust over speed, not low speed”, the operation mode of the Adjustable Push Top is “only push forward, not reverse” when it is in working state, the device won’t take action to the excessively low drop speed infusion.

**2.2.3 Infusion Pause - the Safety Control Mode**

When the device senses no more drop from the Murphy’s dropper outlet, the backlight flashes and the screen display “OVER”. While the voice signs “Infusion stopped. Press RESET to continue or call for nurse, please.”

The voice message repeats itself once as the first group and 2 minutes later the second and the third group, and so on. while the screen keeps flashing until the nurse resumes or removes the device.

In this way, the Safety Control Mode is activated automatically, and the device cuts the tube to wait for next step instructions, as shown in Pic.8.

**2.2.4 Low Battery**

Device will check the remaining power automatically after Boot. A mark will be displayed in LCD screen. If the power is full, the mark is [III]; if the remaining power
is less than a certain number, the mark will turn into ☐, it means the battery needs to be charged. Normally, low power will not affect the current work of the device. When infusion finishes and device shut down, it will give voice sign: “Low power, charge me, please”.

If the device is not charged on time, and it’s working voltage turns to be further lower than certain number during working, LCD backlight will flashes and screen displays “CHARGE”, the voice signs: “Low power, charge me, please”. The voice message repeats itself once as the first group and 2 minutes later the second and the third group, and so on. while the screen keeps flashing until the nurse resumes or removes the device.

In this case, device will refuse to work and turn to the Safe Control Mode. Users need to shut down and remove the device for charging.

2.2.5 Malfunction

When the electric motor and the motivation machine are out of service, the screen will flash and display “HELP” while the voice prompts “Out of service, stop infusion, call for nurse, please”.

The voice message repeats itself once as the first group and 2 minutes later the second and the third group, and so on. while the screen keeps flashing until the nurse resumes or removes the device.

In this condition, the device will stop working and the Safety Control Mode is on automatically. Users need to shut down and remove the device for maintenance.
2.3 The Holder for the Device

For convenience, we designed the Holder especially for the devices. It is suggested that to fix the Holder on the ward’s equipment belt by glass glue for the device convenient rest. as shown in Pic.12.

Whenever you need to use the device, it can be pulled outward from the holder. Whenever you need to rest the device, it can be pressed inward to the holder, which is convenient for charging as well, as showed in Pic.13.

![Pic.12: Glue on the Back of Holder](image1)
![Pic.13: Rest the Device and Get Ready to Use](image2)

Chapter3 FS-100S Infusion Monitoring System

Configuration and Operations

FS-100 Medical Infusion Monitoring Instrument posses the function to transfer data of both infusion’s and the device’s working status to the instruction-receiving system via wireless networking.
In networking, the device may have built-in wireless module with different types such as RF, WIFI, ZigBee and etc. While the wireless module is limited by its transition frequency which should be “Licensed Band”, and its transmit power should below 100mW, or use “Chartered Access Band” such as 3G, meanwhile, its chartered transmit power should be in accordance with relevant standards.

The device is able to auto-detect the status of wireless network connection. In networking, if the connection is good, the signal bar will be filled with solid lines : ☀️ ; if the connection is bad or failed, the signal bar will be filled with dotted lines : ☁️. When the device works individually without networking, the signal bar is filled with dotted lines consistently: ☁️.

In networking, instruction-receiving system can sent the normal information to the device, such as “Upper Limit”, “Lower Limit”, “Turn on the speaker”, “Mute” and etc. Instruction-receiving system also can send the operational instructions to the device, such as ”STOP” command to Turn on “Security Control Mode” to closure the IV tube, which is equivalent to the device receives and accepts the "Brake Command", rather than any other operational instructions.

3.1 System Configuration

FS-100S Infusion Monitoring System is composed of the basic units (each department /each floor ward); also can achieve management of the whole Hospital-care Network if necessary. Each basic unit consists of the following four parts:
3.1.1 FS-100 Medical Infusion Monitoring Instrument (the device)

【Standard Mode】: One device matches per bed, which is suitable for VIP and good service area.

【Optional Mode】: 8-15 devices match any beds optionally, which is much better used in night for lacking of night-working nurses and caretakers to watch out the infusion, and the sleepy patients are unable to pay attention to the infusion.

3.1.2 ZigBee Gateway (pic.14)

ZigBee Gateway is to relay signals and transmit the data to the Central Monitoring Computer. Each department will install 4-8 ZigBee Gateway and the number of ZigBee Gateway is based on the difference amount of total beds and planer structure of the floors for unobstructed communication between the devices and the central monitoring computer. ZigBee Gateway are better to install on relatively empty regions such as the corridors and the ceilings, and keep on special power supply. ZigBee Gateway carries its own power adapter, as long as there is diphase power socket.

Pic.14: ZigBee Gateway
3.1.3 Central Monitoring Computer

FS-100S Infusion Central Monitoring Computer is installed in nurse station, which is comprised of computer host and monitor. It’s suggest that using the existing computers for budget saving which also can be equipped with an additional wall-mounted LCD monitor with large-screen to meet customer requirements.

3.1.4 The Mobile Monitoring Terminal

FS-100S Infusion Mobile Monitor Terminal includes PDA, Medical Computer Cart, Android Smartphone, Smart Watch and etc. to respond to client demands.

3.2 Operations of Central Monitoring Interface

3.2.1 Display of Central Monitoring Interface

【Standard Mode】One monitor device matches per bed (There is a one-to-one correspondence between the device ID and the bed ID) on the basis of the amount and arrangement for beds in a department. When working, the infusion condition of each bed will be auto-displayed on monitoring interface, as shown in Pic.15.
【Standard Mode】 Monitoring Interface

【Optional Mode】 When working, the device ID is showed on the left column, then it is required manual configured by moving the device ID to the corresponding bed ID with a mouse drag, as shown in Pic16.

【Optional Mode】 Monitoring Interface
Infusion status 【1】—【4】 are shown in Pic17, device status 【5】—【7】 are shown in Pic18.

【1】 Working: Green
【2】 Fast: Yellow
【3】 Slow: Blue
【4】 Pause/Stop: Violet
【5】 Low power: Red+
【6】 Device malfunction: Red+
【7】 Network Failure: Gray (If the system cannot receive the signal from working-device for 2-5 minutes, the interface will keep on 5 minutes display. Therefore, the device cannot be operated until restored the connection)

3.2.2 Parameter setting

When the device works, it will automatically sent Drops Count Limit Parameters to the interface. If user wants to adjust the infusion speed parameters of certain bed, he
or she can click on the corresponding bed, and then input parameters to the pop-up box.

If user cares the process of infusion capacity, it also can be set in the pop-up box. In this situation, the virtual liquid bottle of corresponding bed displayed on the interface will shows the dynamic process of infusion capacity. Without setting capacity parameters, the interface will only show the time of infusion.

According to the different product usage scenarios, such as daytime and nighttime, users can choose the device speaker working mode (on/off). All device speakers in the department can be operated all on/ all off by users through the Central Monitoring Interface, as shown in Pic19 & Pic.20.

【off】: nurse can turn off or turn on the Speaker of this device.
【stop】: nurse can control the working device to urgently stop the infusion process.
【review】: nurse can review the tendency curves; also can review historical tendency curves for the recent 60 days.
【scr.off】: nurse can close the parameter Window as pic.19, when the Window cannot removed by the normal operation.

Pic 19: Right-click parameter input  Pic.20: Interface Operation
3.3 Operations of Mobile monitoring terminals (eg. Smartwatch)

3.3.1 Basic Operation

**Settings:** First, entering into Settings page, then tap “Reconnection” to the following options by requirement such as: voice, vibrate and etc. Meanwhile, confirm the server IP address is consistent with the computers. In the end, tap OK to go to work. (The IP address auto-default first-setting status, but can be adjusted according to the users’ demand.), as shown in Pic. 21.

**Bed Control:** First, nurses are able to select “MY BEDS” as their own requirements, and the areas of the selected beds will turn blue by taping, others stay in write. All beds can be selected at once by taping “ALL” button, as users’ requirement. (eg. Nurses are on night duty).

Pic.21: Phone APP Interface

Pic.22: Bed List
3.3.2 Selected bed and parameters setting

Interface of Watch APP is divided into 【Standard Mode】 and 【Optional Mode】, which is basically the same as Central Monitoring Interface.

【Standard Mode】: After the device come into operation, the matched bed will turn green and present in “MY BEDS” automatically.

【Optional Mode】: After the device come into operation, it will firstly present at the top of “MY BEDS” list. Tap the device ID, after it is manual configured to match the device ID and selected bed ID, the device will be arranged in bed ID order.

Users can input the Drops Count Limit Parameter (Upper Limit Parameter & Lower Limit Parameter) and the Capacity Parameter via the slide pointer on the Watch Interface, and the display of Watch APP Interface is basically the same as that of the Central Monitoring Interface, as shown in Pic.27.
The unusual status will be appeared in the “NOTE” column when the infusion is in the status of “too fast”, “too slow”, “stop” and other device fault conditions and alarmed by vibration or voice,

**Pic.27  Parameter Setting**

## Chapter 4 Notes & Maintenance

### 4.1 Notes

1. This device is designed as an assistive technology implementation means for qualified intravenous infusion and nursing service, and it cannot replace manually monitor or speed control operation during the IV process.

2. This device is not applicable to the infant, aged, critical patient or other IV patient needs special care basically. But it can adapt to customer’s requirements.

3. Applicable scope of mesopore: Any IV set has Murphy’s dropper with a diameter less than 24 mm. To meet the inclined using condition, theoretically, the outlet of Murphy’s dropper should be with or above the Nozzle Datum Line level; the low outlet will interfere in detecting or give the misinformation. In the meantime, the liquid level inside of Murphy’s dropper should be below infrared area.

4. This device is a hypersensitive detect facility and applies to the relatively static state. It cannot be used in a moving status; therefore, shaking or wide-angle inclination should be avoided. The detect work might be interfered if spray and water
drops massively hang on inner dropper; customer can flick the dropper to shake off water drops if needed.

5. This device carries out detect work through infrared induction.
6. This device cannot be used when charging and cannot be charged when using.

4.2 Contraindications

This device is not applicable to the IV monitoring of insulin, analgesic, anesthetic, chemotherapeutics, blood, etc.

4.3 Product Maintenance

4.3.1 Regular Maintenance

The devices should be stored in a cool and dry place when is not used. In case there is any fault, please contact factory or dealers for repair. Unauthorized disassembly is not allowed.

Built-in rechargeable Li-batteries can be found in the instrument. If the LCD indicates “Low battery”, which means the electric quantity is low, please charge the battery in time.

When the battery is charging, the charging indicator turns blue. When charging is completed, the charging Indicator turns orange. After removing the charger, the charging indicator will be out.

In order to clean the device surface, it is recommended to use a clean cotton cloth with 75% medical alcohol after shutdown. Do not clean the instrument during battery charging.
### 4.3.2 Fault Handling

<table>
<thead>
<tr>
<th>No.</th>
<th>Fault Phenomenon</th>
<th>Possible Cause</th>
<th>Handling</th>
</tr>
</thead>
</table>
| 1   | Unstable drops count measurement  | 1. The drip outlet of IV set may be in wrong position.  
2. The device is working in a large-angle incline.  
3. The device in low power condition.  
4. Seriously external disturbance. | 1. Shutdown first, then adjust the position of the drip outlet to be aligned with or above Nozzle Datum Line  
2. Avoid the device working in a large-angle incline.  
3. Charge for the device in time.  
| 2   | Cannot detect drops               | Direct hard-light or device fault.                                            | 1. Keep out of the direct light.  
2. If the fault remains, please contact factory for component replacement. |
| 3   | Abnormal LCD indication           | LCD device fault.                                                            | 1. Reboot.  
2. If the fault remains, please contact factory for component replacement. |
| 4   | Speed adjustment failure          | The elasticity of IV tube mismatches the parameters of power mechanism in the device | 1. Change the IV set.  
2. Contact the manufactory to reset the working parameters of the power mechanism. |
<p>| 5   | Cannot closure                    | Electromotor fault or                                                       | 1. Reboot.                                                                |</p>
<table>
<thead>
<tr>
<th></th>
<th>during “stop” alarming</th>
<th>power mechanism fault.</th>
<th>2. If the fault remains, please contact factory for component replacement.</th>
</tr>
</thead>
</table>
| 6 | The device cannot be turned-off. | 1. The button contact is undesirable.  
2. Program dies or crashes. | 1. press 【OK】 button five times, each of which lasts at least 1 second. |

### 4.3.3 After-Sales Service

One year free guarantee since the purchase date and software upgrading is available for every user.

If the time endurance declines rapidly, please contact factory for battery change. Factory will change the built-in electromotor, battery, LCD and speaker, etc. in case of any problems. Please do not change by yourself. Always contact factory or dealers. Scrapped parts should be treated separately according to the medical apparatus and instrument spoiled parts classified processes.

The following situations are not covered by warranty policy:

1. Device identification is damaged and can hardly be recognized;
2. Man-made sabotage is done to the device;
3. The device is damaged because of accidents or other irresistibility.
4. Unauthorized disassembly.

For those parts which are already beyond the warranty period, certain fees such as components costs are required for our repair.
### 4.3.4 Marking Description

<table>
<thead>
<tr>
<th>No.</th>
<th>Marking</th>
<th>Description</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><img src="image" alt="Mark" /></td>
<td>Nozzle Datum Line (the longest one)</td>
<td>This mark is located in the front upside of left shell.</td>
</tr>
<tr>
<td>2</td>
<td><img src="image" alt="Mark" /></td>
<td>Right-handed rotation of Lifting Wheel, which indicates the decline of positring ring.</td>
<td>This mark is located in the upper part of right shell.</td>
</tr>
<tr>
<td>3</td>
<td><img src="image" alt="Mark" /></td>
<td>Left-handed rotation of Lifting Wheel, which indicates the rise of Positioning Ring.</td>
<td>This mark is located in the upper part of right shell.</td>
</tr>
<tr>
<td>4</td>
<td><img src="image" alt="Mark" /></td>
<td>Charge Lamp</td>
<td>This mark is located in the lower part of shell.</td>
</tr>
<tr>
<td>5</td>
<td><img src="image" alt="Mark" /></td>
<td>Charging Port</td>
<td>This mark in located in the lower part of shell.</td>
</tr>
<tr>
<td>6</td>
<td><img src="image" alt="Mark" /></td>
<td>Maintenance Hole</td>
<td>This mark is located in the lower part of shell.</td>
</tr>
<tr>
<td>7</td>
<td><img src="image" alt="Mark" /></td>
<td>Power</td>
<td>This symbol is located in the lower part of LCD.</td>
</tr>
<tr>
<td>8</td>
<td><img src="image" alt="Mark" /></td>
<td>Good wireless network connection</td>
<td>This symbol is located in the lower part of LCD.</td>
</tr>
<tr>
<td>9</td>
<td><img src="image" alt="Mark" /></td>
<td>Bad/No wireless network connection</td>
<td>This symbol is located in the lower part of LCD.</td>
</tr>
<tr>
<td>10</td>
<td><img src="image" alt="Mark" /></td>
<td>Voice</td>
<td>This symbol is located in the lower part of LCD.</td>
</tr>
<tr>
<td>11</td>
<td><img src="image" alt="Mark" /></td>
<td>Mute</td>
<td>This symbol is located in the lower part of LCD.</td>
</tr>
</tbody>
</table>
4.3.5 Packaging

FS-100 Medical Infusion monitoring Instrument is packed with paper box. There are five instruments in one small paper box. Every 20 small paper boxes will be packed into one bulk carton. Product manual, and warranty card are all contained in the box.

4.3.6 Transportation

All kinds of vehicles are suitable to transport the instrument. Keep the instruments away from heavy impact, shake and water seepage resulted from rain and snow. More requirements should be listed in the transportation contract.

4.3.7 Storage

Please store the packed products in dry place with good ventilation and keep away from corrosive gas.

4.3.8 Date of Manufacture

Please see the labels.

4.3.9 Operating Life

The operating life of this device is 4 years since leaves the factory in the normal transportation and storage condition.

4.3.10 Manufacturer

Manufacturer: Hangzhou Freer Tech Co., Ltd
Contact: Tel:+86-571-88951926   Fax:+86-571-88952736

http://www.freer-cn.com  Email: jzw@freer-hz.com