

BIO BM1000

Portable Dual-Head Vein Viewer

User's Manual

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1. General

The Vein Viewer BM1000 is a brand new product developed by our company, which is to visualize the veins beneath the surface skin without any touch. Adopting the safe near infrared cold light illuminator, the system can locate and display the veins on the 5 inch B/W flexible screen with high resolution.

2. Scope

The Vein Viewer is mainly used in hospital for doctors and nurses to observe the Superficial veins of patient's hand, arm, elbow, foot and head.

3. Specifications

Power Supply:	AC100-240V 50/60Hz 15VA
Input Power:	DC 12.6V 1A
Fuse specification:	F1.1A DC16V self-recovery
Internal power supply:	Lithium battery DC12V 3000MAH
Voltage:	DC11.1V-12.6V
Power consumption:	6W
Power of Infrared luminotron:	3W
Inspecting Distance:	10cm-30cm (adjustable)
Screen Size:	5 inches (resolution:800*480)

4. Components

The Vein Viewer BM1000 includes four parts, which are the main unit, Image enhancement device, the adapter and cables.



5. Operating instructions

5.1 Before using

5.1.1. Opening the packing case, remove the protective overcoat. No sharp tools allowed avoiding any damages to the device.

5.1.2. Take out the main unit, adapter and the other parts separately.

5.1.3 Please check whether the main unit and accessories are damaged. If yes, please contact the aftersale service as soon as possible.



5.2. Operating instruction

5.2.1 Take out the cables, connect with main unit, image enhancement device and power as below pictures.



5.2.2. Adjust the stand and the screen, move it onto the suitable position of injection.

The stand can bend to arbitrary shape, angle to the most appropriate position.

5.2.3. Take off the black lens lid.

5.2.4. Turn on the power switch, the switch indicator will turn green and the screen lights up.

5.2.5. Put the disposable cover on the image enhancement device.



5.2.6. To observe **dorsal hand**. Put the **whole palm** on the image enhancement device and keep the hand level. Please **DON'T** press the green switch.



5.2.7. Adjust the lens focus. Screwing the focus knob count clockwise to move the focus closer, screwing clockwise to move the focus farer, till the image on the screen is displayed clearly.



5.2.8. To observe **arm, head or other body parts**. Press the green switch and observe the image without the enhancement device.



NOTE: The green switch is for shifting the light source and adapting to different parts.

When it's not pressed, it uses the light source of the enhancement device, mainly for the vein display of dorsal hand

When it's pressed, it uses the light source of the main unit, mainly for the vein display of arm, elbow and the other body parts.

6. Adjust the screen menu

There're adjusting buttons of the menu on the back of the screen Middle button (shift the menu options):

contrast/color/saturation/brightness/language (English, Chinese)/reset

Upper button: + (plus)

Downer button: -(minus)



7. Tips

Before using the device, doctors or nurses should learn how to locate the veins via the device for the optimized result. Before the first time of using, we recommend the user can take a visible vein or a confirmed vein by touching diagnosis as reference, which is to compare the new method of vein finding with the traditional method.

Optimizing the image of vein: Locating the requested vein, user can find the best location by slight moving the inspected body part horizontally.

Aim the center of vein: When the vein is located properly, user can see the center of vein.

Adjusting the interior illumination: User can adjust the strength of interior illumination to get better image quality.

The device displays the peripheral veins only. The veins of some patients or some veins won't be displayed very clearly. It will be affected by many factors, including that the depth of vein is over 7mm, condition of skin, the skin covered by hair, the uneven surface of skin and plump tissue. The device won't tell the depth of veins under the skin.

8. Maintenance

User should check the device regularly, clean and sterilize the device according to the medical and healthy law of local government, making sure it's clean enough before every time of using the machine.

While cleaning the device, please don't soak the device into any liquid, don't wet the device and left any liquid on it. It's not allowed to sterilize the device by heating or pressurizing. Disconnect the power supply before cleaning the stand.

To clean the main unit and stand, it is recommended to use the dry and soft cloth.

While cleaning the lens, please don't touch the optical units without gloves. The optical surface at the bottom of the device can only be cleaned by the lens tissue.

9. Notes and Warnings

The device only displays the peripheral veins. According to the different patients, it can detect the veins beneath the skin at a certain depth range. The device doesn't give the depth of veins.

According to the different patients' conditions, the device may not display the deep veins, the veins of skin with bad conditions, the veins of the skin covered by hair, the veins of the skin with scars, the veins of uneven skin surface, and the veins of plump patients.

To locate the veins accurately, user should place the main unit at the proper height and angle, and also vertically above the inspecting veins.

Please don't place any objects on the device, and don't let any liquid flow into the device.

The device can help to find and locate the peripheral veins, but can't take the place of the vein locating methods based on sight and touch, or any other clinic methods of vein finding. The device is a supplement for the sight and touch diagnosis.

10. Warranty

The warranty of BM1000 is 12 months since exportation date.

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