



## **Matters to Be Noted**

**1. Please read the operation instructions carefully.**

**2. Matters to be noted:**

1) AC220V power socket must be well earthed and the grounding resistance shall not be greater than  $4\Omega$ . Otherwise, faults or accidental human injuries may occur.

2) When the contained high-voltage inverter works, the high voltage produced is dangerous. In case of the product failure, non-professional personnel are not allowed to open and repair the product so as to avoid any possible human injuries.

3) Please do not use this product where it is damp (such as in the bathroom, etc.) to preclude any possible electric shock.

4) Do not use it in the outdoor place where there is thundering to preclude any possible electric shock.

5) Do not use it near the fire and do not impact or swing the product

6) The screen is made of organic material and the cleaning with organic solvents such as alcohol is prohibited. The screen can be cleaned with soft wet cloth and it is easy to be scratched by ball pen and keen hard objects.

7) It is prohibited to repeatedly open and stop the product in use. Otherwise, the internal electric circuit may be damaged;

8) Please timely stop the machine when the film viewing is completed. Pull out the AC220V power plug if it will not be used for a long time.

## **1. Expected use of the product**

The product can be used to observe the x-ray film or galactophore film, especially the 9600K emulsion film, in the irradiation department, operation room or out-patient department in the medical institutions.

## **2. Normal working conditions**

- a) Ambient temperature:  $+5^{\circ}\text{C}\sim+40^{\circ}\text{C}$ .
- b) Relative humidity:  $\leq 80\%$ .
- c) Atmospheric pressure:  $75\text{kPa}\sim106\text{kPa}$ .
- d) Input voltage AC220V, frequency 50Hz
- e) AC230V three-pin power socket should be provided nearby, which shall be reliably earthed with the grounding resistance not greater than  $4\Omega$ .

## **3. Storage/transport environment conditions**

- a) Ambient temperature:  $-10^{\circ}\text{C}\sim+40^{\circ}\text{C}$ ;
- b) Relative humidity:  $\leq 80\%$ ;
- c) Indoor, no corrosive gas and dust and well ventilated.

## **4. Main technical indexes**

### **4.1 Optical parameters:**

No flicker on the screen, the brightness at the screen center is about  $4000\text{cd}/\text{m}^2$ .

The light dispersion coefficient of the screen is  $>0.8$ .

The screen is uniformly lighted with the uniformity coefficient being  $\geq 0.8$ .

### **4.2 The color temperature of the light source: 12000K.**

### **4.3 It will light within 2 second when the power is switched on and the brightness stability time is $<3$ second.**

### **4.4 Working noise is $<40\text{dB}$ (Background noise: $20\text{dB}$ )**

### **4.5 After 4h work, the front surface temperature of the shell is $<60^{\circ}\text{C}$**

## **5. Configuration:**

LED light source, inverter circuit, light guide plate, light guide membrane, observation screen (screen), frame case and roller needle film clip.


## **6. Working Principles**

6.1 The power converter converts the AC220V voltage into DC24V voltage through commutation and filtration, the LED light source is lighted. The light source emit strong high color temperature light, which is refracted by the light guide plate many times and reflected by the light guide membrane to enable the whole screen surface covered by uniform and soft light for the doctor to view the film.

6.2 The film clamping mechanism ensures that the medical film can be inserted on the screen and clamped tightly and can easily be taken out after viewing.

## **7. Installation**

7.1 Open the carton and take out the viewer and enclosed accessories.

7.2 Drive two steel nails into the wall at the position corresponding to the  installation holes at the back of the viewer. Let the steel nails leave about 5mm above the wall surface to hang the viewer.

7.3 Connect one end of the three-conductor power cable to the corresponding socket on the lamp side and the other end to the power supply AC220V socket, then the equipment is ready for use.

## **8. Operation Instruction**

8.1 Switch on the power and the whole screen surface will emit daylight and the normal brightness will be realized within 3 seconds.

8.2 Put the film closely on the screen surface and move it upward to insert it into the groove and you can view the film normally.

8.3 When completing the film viewing, pull down the film slightly to take out the film.

8.4 Turn off the power switch on the panel to protect the light tubes when not viewing a film. If the machine will not be used for a long time, turn off the switch and disconnect the

power plug for safety.

8.5 The machine should not be set in the maximum brightness state for a long time so as to prolong the service life of the light tubes.

## **9. Maintenance**

9.1 This machine uses a fully closed structure and long-life light source, which needs no replacement for several years' use. It is not allowed to open the machine by non-authorized professional personnel. The client should adhere to the correct operation method specified in the instruction and avoid the matters listed in the matters to be noted. The machine can work normally without special maintenance.

9.2 Timely clean the dust and foreign substance on the screen.

9.3 The screen of this machine is made of organic material and any scratch should be avoided, otherwise, the scratch is difficult to remove and can affect the film viewing.

## **10. Cleaning**

10.1 When doing the cleaning, first turn off the power and pull out the AC220V power plug to avoid possible human injure.

10.2 Use soft wet cloth after twisting out the water to clean the screen surface first and then the frame.

10.3 Let the machine dry naturally for ten minutes before starting the machine for normal work.

Note: It is prohibited to use organic solvents such as alcohol, thinner, etc. and liquid detergent of sterilizing liquid or acidic or alkali types. Otherwise, the screen surface may be damaged.

## **11. Malfunction and Troubleshooting**

11.1 When the machine have problem, please immediately turn off the power switch and pull out AC220V power plug.

11.2 Please timely contact the distribution agent, the office or the manufacturer.

11.3 The high voltage produced by the working high-voltage inverter is dangerous. It is prohibited for the unauthorized personnel to dismantle the machine so as to avoid the

potential equipment damage or human injury.

#### 11.4 Simple-trouble-shooting

Serial NO.	Description of the trouble	Cause	Methods of troubleshooting
1	Partially lit	Internal circuit fault	Contact the distribution agent
2	Completely unlit	1. AC220V power supply failure 2. AC220V socket damage 3. Power switch damage 4. Internal circuit damage	Restore the power supply Change the socket Replace the switch Contact the distribution agent