

LED Shadowless Operation lamp
LED500A Classic style Mobile european




Instruction manual



【Precautions, warnings, and instructions】

1. Please read the instruction manual carefully before using this product.
2. Strictly follow the steps described in the installation manual for installation and debugging use, when connecting the power supply of the grid, please use 5A isolator to isolate.
3. Please check frequently whether the fasteners of the LED Shadowless Operating Light are loose to prevent accidents.
4. Personnel not approved by our factory, please do not disassemble this product and control circuit at will.
5. The safe use period of this product is ten years, the free warranty period is one year (except for consumable bulbs). The damage caused by improper use by the user is not within the scope of free warranty. This product provides lifetime maintenance service. It is forbidden for users to repair without permission, otherwise the manufacturer will not provide free warranty. Please use the accessories and parts provided by the manufacturer, otherwise the safety of the LED shadowless light will be reduced.
6. When cleaning the LED Shadowless Operating Light, please use a soft cloth or sponge, wet cloth or dish soap, do not use a hard brush, wire brush. Do not use detergent powder, paint, banana oil, acid, etc.on any surface.
- 7.After using dish soap, wipe the shadowless lamp again with a damp cloth, and then dry it with a dry cloth.
- 8.The glass surface of the front cover is often removed with medical gauze to improve the illumination. Water can be used, It is prohibited to use alcohol or other organic solvents to clean.
- 9.The disinfection handle disinfection: under high temperature disinfection, with 121 °C, 30 minutes;
The surface of the lamp shell and the operation panel were disinfected with 75% alcohol for 3 minutes or 0.1% Xinjier disinfectant solution for 30 minutes.
10. LED shadowless light balancer arm are strictly prohibited from hanging other items.
11. In order to ensure the normal use of this product, non-professionals are prohibited from opening the lamp head housing.
12. Wearing gloves when adjusts the handle.

13.If the lamp bead does not light up, cut off the power supply firstly, then check whether the power fuse is burned out which the fuse is in an obvious position in the base shield, then deal with it (fuse: Fuse: F2AL250V, Φ 6.3mm, length 32mm).

14.The user grounding wire should be reliably connected to the grounding terminal of the product, and the grounding wire should be clearly located at the grounding symbol. Such as grounding symbol: 

15.  This symbol indicates a random file lookup.








16. In order to prevent static electricity, lay anti-static floor or carpet, the operator should wear an anti-static hand strap on the wrist, this hand strap should have good grounding performance, avoid wearing chemical fiber clothing that is easy to get electrified.

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1.Symbol of labels, packaging identification

The packaging and labeling symbol are explained as follows:

| symbol | meaning | symbol | meaning |
|---|--|---|---------------------|
|  | alternating current |  | Protective earthing |
|  | Fear of rain |  | Beware of burns |
|  | Fragile items |  | up |
|  | Note: Please read the attached documents before use DO NOT stare the light directly for a long time | | |

2. Technical parameters

Usage environment

a) Ambient temperature range: 5°C~40°C;

b) Relative humidity range: ≤80%;

c) Atmospheric pressure range: 700hPa~1060hPa;

★ The place of use of LED Shadowless Operating Light should be free of harmful gases, chemical precipitation and other flammable, explosive, corrosive media or close to heat sources that seriously affect the use of the machine, and should be well ventilated and kept dry in the chassis.

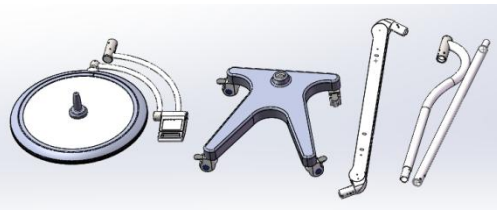
★ LED shadowless Operating lights cannot be used with high-frequency surgical equipment at the same time. Using the device near short-wave and microwave therapy equipment may cause the output of the device to be unstable;

| Technical Parameters | LED500 |
|-----------------------------|-------------------|
| Illumination (Lux) | 30,000-160,000Lux |
| Lamp Bulb Quantity | 48 |
| Bulb Type | LED |
| Bulb Average Life | ≥80, 000h |
| Color Temp (K) | 3700K ~5000K |
| Color Rendering Index (CRI) | 85~98 |

| | |
|-------------------------|--------------------|
| Illumination Depth(mm) | 50-180cm |
| Facular Diameter(mm) | 120-280mm |
| Dimming Control | 1%-100% |
| Bulb Power | 48 |
| Temp Rise (doctor head) | < 1°C |
| Input Power | AC100-240V 50/60HZ |

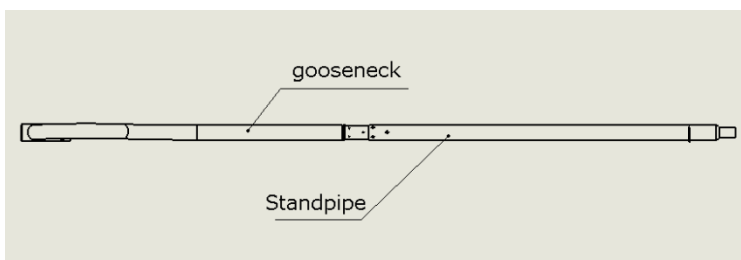
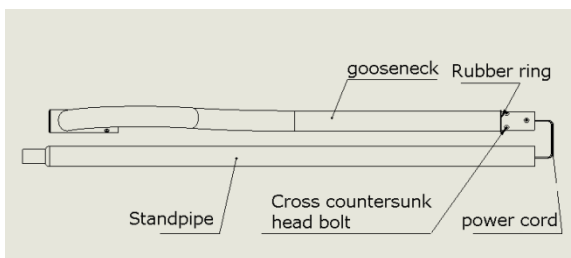
3.Installation

Tools: Flat-head screwdriver, 19# wrench.



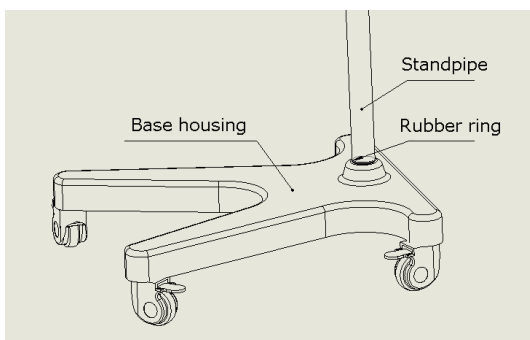
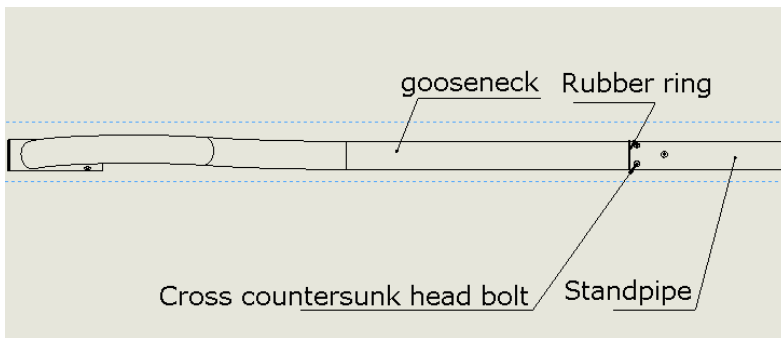
Step1: Two Vertical Rod Assembly

1、 Remove the two pole packaging, after the removal of packaging two pole do not knock, do not distance too far, to prevent the riser or gooseneck internal power cord off;



- 2、 Use The crosshatch screwdriver to remove the crosshatch countersunk bolt from the gooseneck. Do not throw it away;
- 3、 Pick up the GOOSENECK and insert it into the riser in the direction of the

power cord. Align the bolt hole in the riser with the bolt hole in the gooseneck;
 4. Tighten the cross countersunk head screws one by one using a "Cross" screwdriver;



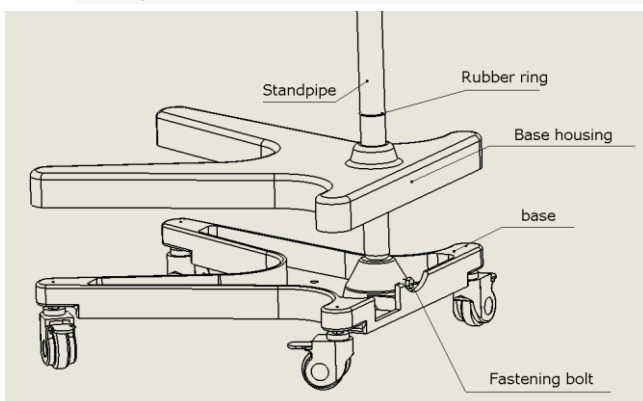
Note: 1, two Vertical Bar Assembly, pay attention to both ends of the power line reserved connector is not pulled into the tube;

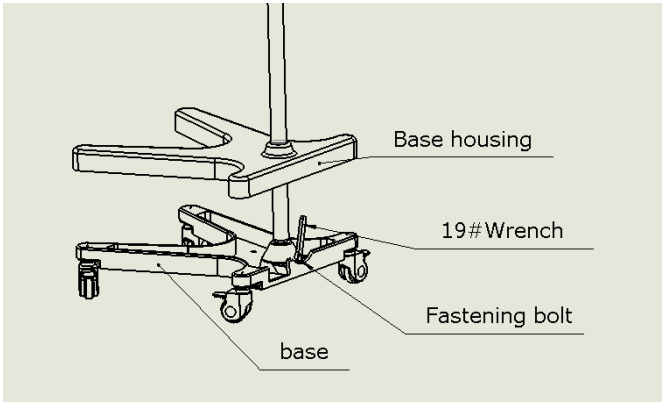
The bolts should be fastened, and there should be no leakage and weak phenomenon.

Step 2: the Vertical Rod and the Base Assembly

1、 First, the power cord connector at the bottom of the assembled vertical tube is inserted into the fixing hole of the base Shell, and then the vertical tube is inserted into the fixing hole, and the connection is reliable;

2、 The rubber ring at the bottom of the riser is dialed 5-10cm above the Vertical Pole, and the base Shell is raised 5-10cm along the direction of the riser;

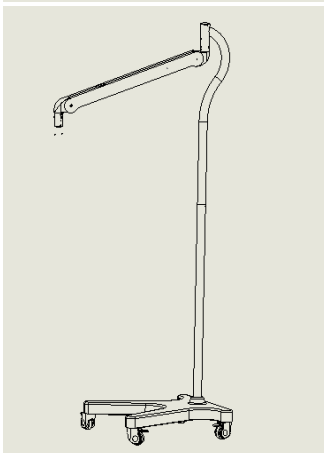
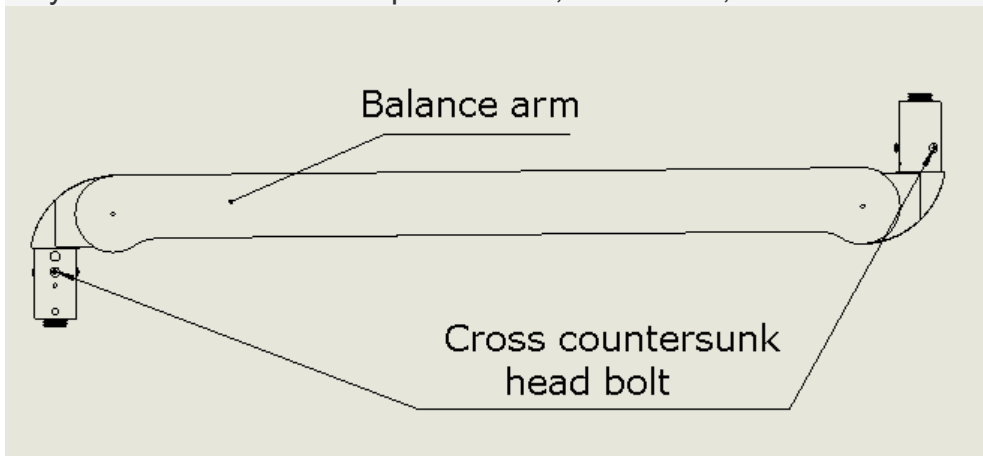




3. Adjust the gooseneck tube orientation so that the Gooseneck Tube is facing forward. Make sure to adjust the gooseneck tube orientation before tightening the base bolt. Use 19 # wrench to tighten the fastening bolt on the base;
4. The power cord at the bottom of the pole is connected with the power cord at the base;
5. The base Shell along the vertical tube direction, so that the shell on the base, and buckle, the rubber ring down the direction of the vertical Tube, until contact with the base Shell.

Step 3: Install the balance arm

1. Remove the balance arm package, using the "Cross" Phillips Screwdriver will balance arm both ends of the Cross countersunk head bolts, do not throw away, only need to remove the exposed bolts, a total of 6, other bolts do not remove;



2. Push out the power connectors at both ends of the balance arm;

3、 There is a label on the connecting part of the balance arm and the lamp head, and there is no label on the connecting part of the balance arm and the Gooseneck Tube;

4、 After the balance arm is inserted into the Gooseneck Tube, and the balance arm is matched with the screw hole of the Gooseneck Tube, the balance arm is fastened with the Cross countersunk head bolt which is removed.

Note: 1. The unlabeled end of the balance arm is connected to the GOOSENECK;

2. Do not remove the balance arm bolts at will;

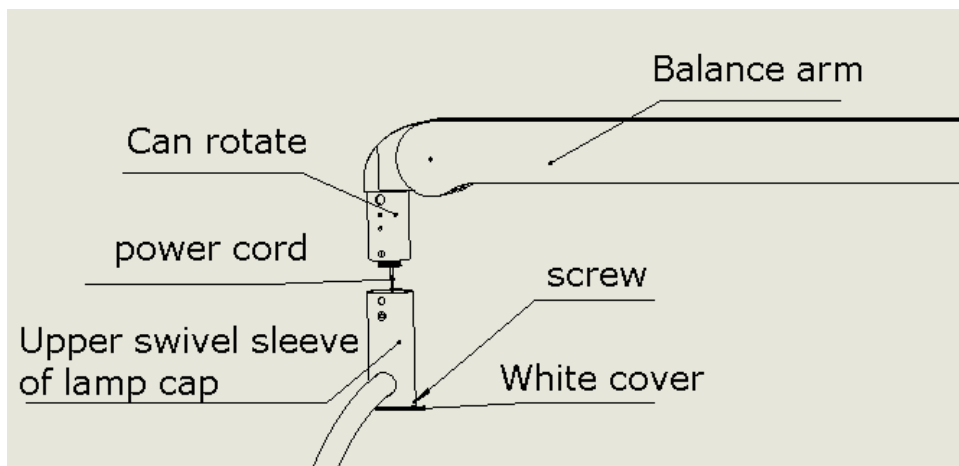
3, power cable plug must be strong, in place;

4. The balancer is inserted into the Gooseneck, taking care not to squeeze into the power cord;

5, fixed bolts to tighten, do not leak on, loose and other phenomena.

Step 4: Installation of shadowless Lamp Cap

1, Take out the shadowless lamp cap and use the screwdriver to remove the screws from the upper screw cap. Do not throw away the two screws. Then remove the white cover from the upper screw cap and push out the power cord connector from the white cover;



2, Put the upper rotator sleeve on the connecting sleeve of the balancing arm, insert the power wire connector pushed out by the balancing arm before into the inner part of the upper rotator sleeve of the lamp head;

3, Connect the two power cord connectors and plug them in;

4, Use the screwdriver to fasten the lamp cap upper rotator sleeve and the balance arm together with the removed Cross countersunk head bolt;

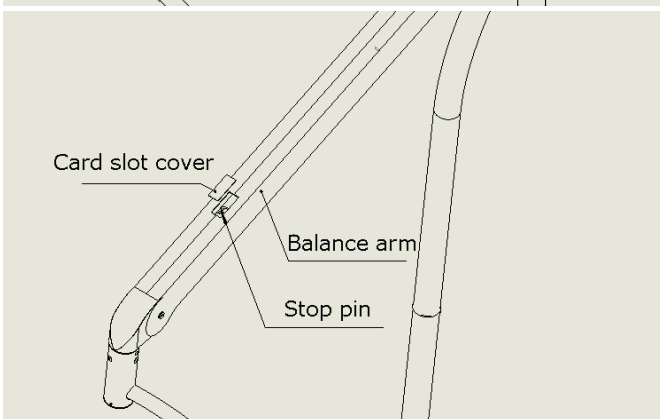
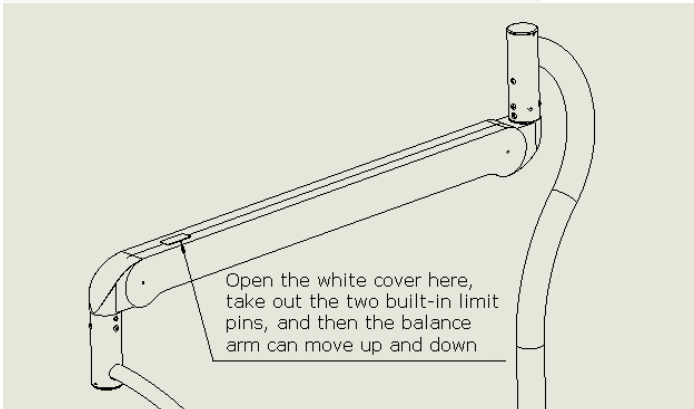
5, Insert the connected power cord into the upper rotator sleeve of the lamp holder, cover with a white cover, and fasten it with two screws removed,.

Requirements: 1. Fixed Bolts shall not have leakage, loose and other problems

2. Do not forget to connect the power cord connector when installing the lamp cap

3. Fast wiring plug-in, to be reliable, do not arbitrarily change the line, wire up and down the same color.

Step 5: Examine and adjust each joint



Every piece of equipment has been thoroughly and strictly debugged before it leaves the factory

1. Remove the Stop Card under the slot cover of the balance arm:

1. Push the card slot cover in the opposite direction, push it to the end, then pry the card slot cover off with a word screwdriver.

2. Use Pliers to remove the cylinders (two) from the slot. Press the balancer down slightly when removing. After removing the cylinder in the clamping Groove, the balancer is lifted to a certain height and then loosened to observe whether the lamp

cap appears free drooping phenomenon. Sagging occurs to see if the assembly is not correct.

3.No problem after the good card slot cover.

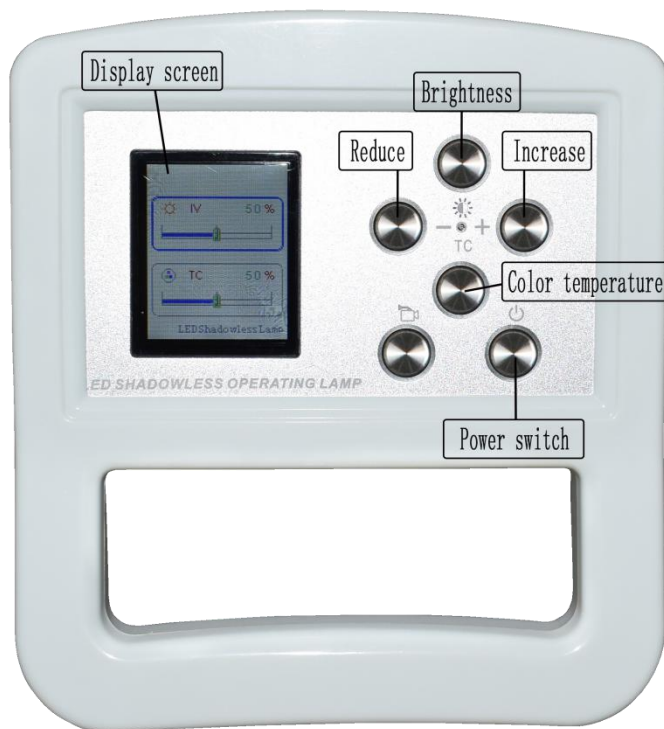
2.Move any joints, observe whether there is drift, free sagging and other phenomena, if there is, first determine whether the second step is strictly in accordance with the provisions of installation and debugging, second step no problem, can be fine-tuned by adjusting the various joints of the brake damping bolts.

Cylinder limit is only for installation lamp, shadowless lamp is not useful after installation.

Step 6: Try Lighting

All the fastening bolts are checked, action debugging, access to the market electricity to test light, test light after unmistakable, off the market electricity, to all the installation is completed.

4.How to use



1. When the power is turned on, according to the needs of surgery, press the power switch button

for 3 seconds to turn on, then the LED surgical shadowless light begins to work.

Press brightness, then “+” or “-” to increase or reduce the light brightness.

Press color temperature, then “+” or “-” to increase or reduce the color temperature.

2. Turn the focusing handle to adjust the spot size and focusing depth to achieve the best illumination at the surgical site.

3. After each use, can adjust the brightness and color temperature to the weakest that convenient for next use adjustment. Long press the power switch button for 3 seconds to turn off the shadowless light.

5. Trouble-shooting

1. When adjusting each part, clock wisely tighten it and counter clock wisely loosen it, so that each part can rotate freely and can be positioned at a certain position. If you have any questions, please contact the manufacturer.

2. After installation, if it is found that the rotation of 1-balancer arm and 2-upper elbow is not flexible or cannot be positioned, use a 6mm hex wrench to adjust the corresponding damping screw at the connection.

3. If it is found that the rotation of the 2-upper bend and the 8-lower bend is not flexible or cannot be positioned, use a 4mm hex wrench to adjust the damping screw at the connection.

4. If it is found that the rotation of the 8-bend tube and the 3-lamp head is not flexible or cannot be positioned, use 4mm hex wrench to adjust the damping screw at the connection.

5. If it is found that the vertical movement of the 1-balancer is not flexible or cannot be positioned, use a 6mm hex wrench to adjust the balance spring of the balancer.

6. Maintenance and repair

LED shadowless operating light needs to be maintained regularly by professional maintenance personnel, refer to Table 5 for the time, and make records; If you find a problem, please solve it in time according to the product manual, if it cannot be fixed, please contact manufacturer in time.

Table 5 Maintenance intervals

| Items | Frequency |
|---|------------------|
| Check the fastener status of each connection part of the shadowless light | Every two months |
| Check whether the shadowless light cable line contact is good | Every two months |
| Check the flexibility of each moving part of the shadowless lamp | Every two months |

7. Cleaning and disinfection

When cleaning and disinfecting shadowless light, you must first cut off the

power supply, prevent liquid from penetrating into the light, and do not clean the transparent plate with brushes, steel wire masses and other abrasive materials.

7.1 Cleaning and disinfection of the disinfection handle

The disinfection handle adopts high temperature disinfection, temperature: within 121°C, time 30 minutes.

7.2 Cleaning and disinfection of lamp shell surface and operation panel

Disinfect 75% alcohol for 3 minutes or 0.1% neo-Jiern disinfectant solution for 30 minutes.

8. Storage and transportation

LED Shadowless Operating Lights should be stored in a room with a relative humidity of no more than 80%, a temperature of 5 °C ~ ± 50 °C, and no corrosive gas and good ventilation.

LED Shadowless Operating Lights are fragile, susceptible to scratches or damage to sharp or hard objects, please use the original packaging during transportation and be transported by an experienced transporter.

9. Safe Use Period

Date of manufacture: see label.

The safe use period of this product is 10 years from the date of manufacture.

Disinfection handle service life: 15,000 times of plugging and unplugging.

10. Common troubleshooting

For common faults and treatment methods, see Table 6.

Note: Repairs for any electrical wiring faults must be the responsibility of qualified maintenance personnel

Table 6: Common faults and treatment methods

| serial number | Phenomena | Handling methods |
|---------------|--|---|
| 1 | Turn on the LED surgical shadowless light external power switch, the power indicator of the control panel does not light up. | Check whether power connected to the light. Check the safety device, if the fuse is burnout, replace it with a new fuse of the same specification. |
| 2 | Turn on the LED Shadowless Operating Light external power switch, the control panel doesn't work | Inspect the control line and check that the wire color is connected correctly. |

| | | |
|---|---|---|
| 3 | LED surgery shadowless light does not light up | Whether the lamp life is up, the fuse is blown out Replace the bulb or fuse |
| 4 | The LED Shadowless Operating Light rotates non-stop | The installation is not horizontal or the brake area is too loose Adjust the horizontal reinstallation, adjust the brake screws/damping screws |
| 5 | The LED Shadowless Operating Light is not bright enough | Low external voltage Check the voltage with a multimeter |
| 6 | LED surgery shadowless lamp head movement up and down can not be positioned | The balance spring is loose or tight Open the cap adjustment nut on the balancer and tighten clockwise and loosen counterclockwise. |