

PK-320 Series ENT Treatment Unit

User's Guide

Xuzhou Pengkang Electrical Equipment Co.,Ltd.

User necessarily reading

User must read this text carefully before operating this instrument. It tells the user some operation steps which should be taken care of when using this instrument and the other operations which can lead to the abnormality and the danger to the body by the instrument. If those operations which are utterly avoided by this text prescribing lead to abnormal phenomena, body's and instrument's damage, our company don't take on the duty of safety, reliability and promise. We also don't free-repair to those kinds of fault.

First, those things should be taken care of when operating the instrument.

- * Avoid the instrument used in the below environment:
A splash, B no ventilation, C sunlight shoot directly, D strong shock, E chemical medicine, F dust, G poisonous gas, H corrosive gas.
- * Instrument should be linked with the ground according to the right requirement to avoid the electric circuit danger and insure the image quality.
- * It isn't allowed in the opening the electricity situation to load or unload the probe and move the instrument in order to avoid the safeties danger happening.
- * Please freeze the instrument when it isn't used to prolong the probe's service life.
- * The probe should be clean as long as the operation is over, use soft cloth or cotton with clean water to clean the probe's surface but don't use hard paper to clean it in order to prolong probe's service life.
- * It can't open or close the electric source in short time and reopen the instrument should after 5 minutes to avoid to cause the instrument's dead.
- * Keep it far away from magnetic field , strong electric field equipment and high pressure equipment to avoid affect the instrument's quality.
- * The operations used in the instrument are must accord with the requirements of our company except the medical coupling in order to avoid the danger by using them incorrectly.
- * It is our suggestion that the hospital or user use the medical coupling which should meets the provision, be good at quality and within the valid period.

Second, cue and caution about the instrument

- * Stop the work and cut off the power source as long as there are abnormal phenomena of the instrument, find out the reason and get touch with my company to resolve them.
- * It can't be eliminated of the safety danger brought from the superimposed current omitted when over three instruments are linked and used at the same time, so it should be awake to the user that this method is avoided to be used.
- * This instrument's signal output parts only be allowed to connect with those equipments according with Chinese national standard GB9706.1—2007 《The first part of medical equipment : safety universal requirement》 .

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Chapter 1

The capability and structure of 320 Series ENT Treatment Unit

1.1 The capability of 320 Series ENT Treatment Unit

1.1.1 The characteristics of 320 Series ENT Treatment Unit

320 Series ENT treatment unit is a integrated equipment which is made according to the need of patients and hospitals .It has curved and straight spray which can bring the liquid medicine pulverization equably. The suction device can suck the phlegm and bloody.

1.1.2 Adjusting scope

It is applicable to ENT section checking and treating patients in every hospital.

1.1.3 The sign and model of 320 Series ENT Treatment Unit

The model of the apparatus is made of company name, product type and serial NO.

1.1.4 The environment and condition of use

Temperature: 10℃~35℃

Humidity: ≤80%

Pressure:86kpa~106kpa

Use Voltage : AC220-240V ;50 -60 Hz

Import power: PK-3201 1000VA±15%

Excursion way: **continuous running ≥8h**

1.1.5 Safety standard

The apparatus accords with the GB 9706.1-2007 《 Medical Electrical Equipment equipment: General requirement of safety》 . The safe classify of lightning strike is Class I ,Type B. the apparatus accords with GB/T14710-2009 《 Environment requirements of medical Electrical Equipment equipments》 in environment experimentation.

1.1.6 Specifications

a. Plus pressure of spray device: 0.1Mpa~0.15Mpa(Adjusting)

b. Minus pressure of suction device: ≥0.07Mpa (Adjusting)

1.2 The structure of 320 Series ENT Treatment Unit

1.2.1 Structure of 320 Series ENT Treatment Unit

Standard Settings

| | |
|------------------------|---|
| Apparatus | PK-3201 |
| Spray | Curved 1 piece&, straight 2 pieces |
| Suction device | 1piece |
| Projection lamp | ≥8w 1 piece, illuminate≥1*10 ⁴ lux |
| Tray | 1 piece |
| Gauze container | 2 pieces |
| liquid medicine bottle | 6 pieces |

1.2.2 Measurement and weight

a. Measurement (L*W*H): 1670*700*850 mm

b. Gross weight: 170 kg

c. Net weight: 120kg

Chapter 2

Installation of 320 Series Treatment Unit

2.1 Turn on the package

2.1.1 Unlock the package

Pay attention to the position of the apparatus. Do not put the apparatus inversion before unlocking the case.

2.1.2 Check up

Check up the apparatus and accessories which are according to the list provided by the manufacturer.

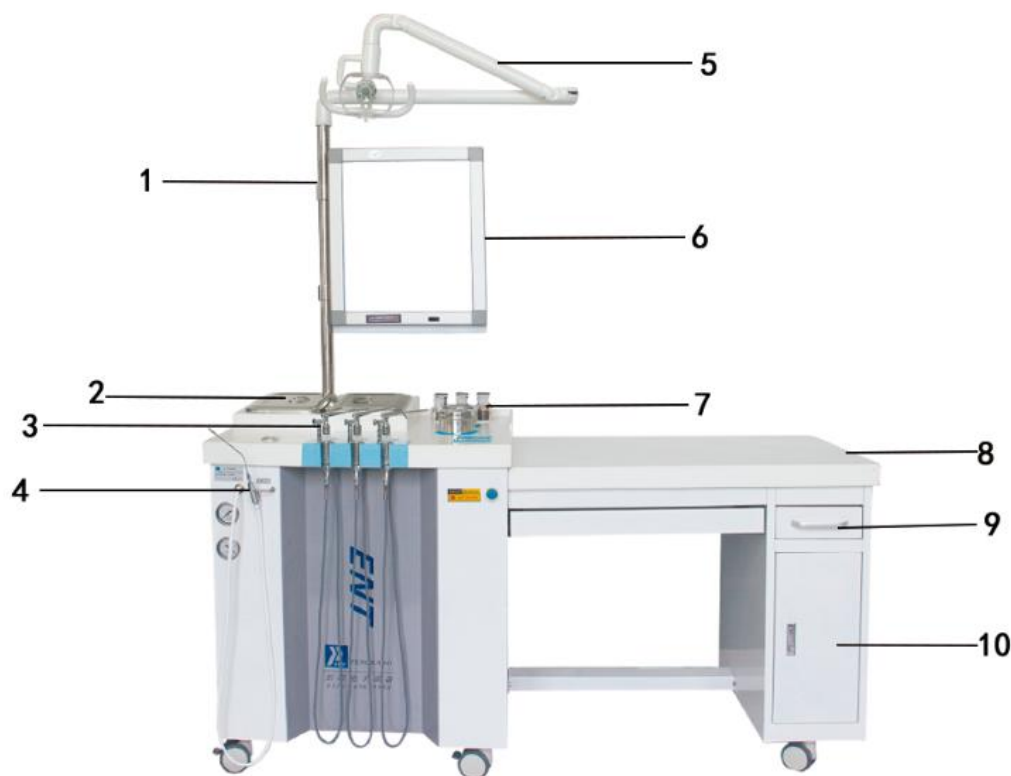
2.1.3 Warranty card

Write your information on the Warranty card and send it to the technical center in china.

2.2 The installation of apparatus

The main apparatus of PK-320 Series are installed by the manufacturer. Some accessories are separated for convenience in transportation. You can install them by yourself according to this instruction. The installation of spray device, suction device is connected to the relevant rubber pipe. From left to right, the first three pipes connect to the spray device. The fourth pipe connects to the suction device. The fifth pipe connects to the blow device. There is a linker in every pipe. They can be connected to every device.(note the central obturating ring).

2.21 Installation Procedure



PK-3201 (single) length

3201 (single)

Parts:

| | |
|----|--|
| 1 | Lamp knighthead |
| 2 | Tray |
| 3 | Sprayer |
| 4 | Suction device |
| 5 | Balance arm & Projection lamp |
| 6 | X-ray viewer |
| 7 | Liquid medicine bottle & Gauze container |
| 8 | Marble table |
| 9 | Draw |
| 10 | Computer cabinet |

Installation Procedure:

I. Move the equipment.

Warning

Please do not carry the top of ENT unit. The marble top is easy to break!



There is a handle in the right side of the ENT unit. Please carry the handle and frame when you move it.



Please look the pictures of demonstration as below:



II. Install lamp knighthed

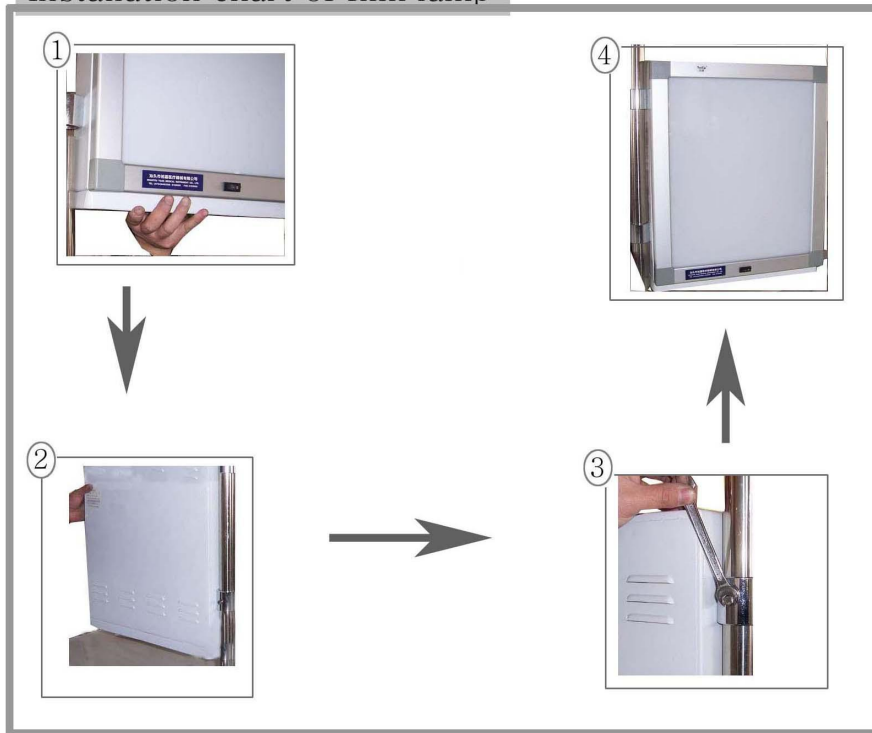
First install the left knighthed for installing film lamp, then install another, the right knighthed is used to install the projection lamp.



III. Install film lamp

Install the film lamp on the left knighthed, we have already mentioned in the above. When the film lamp is on the knighthed, the reverse side of it should face to the worker who install it.

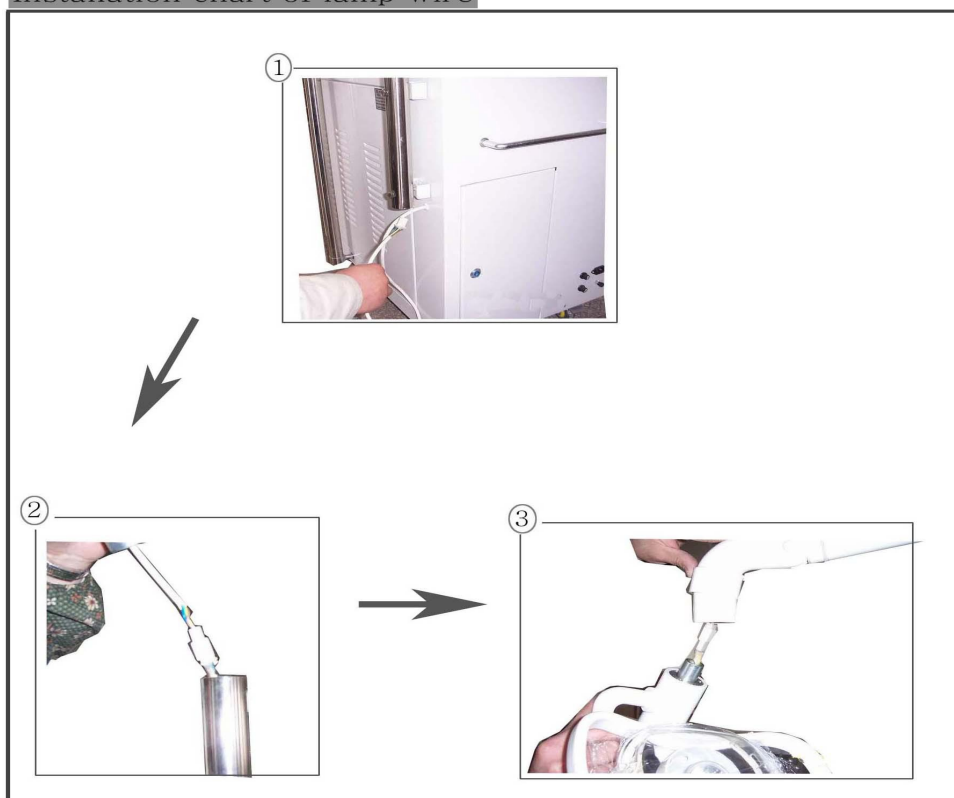
Installation chart of film lamp



IV. Install the lamp wire

At the bottom of the right knighthead ,pass through the lamp wire, one end of the wire will be connected to the end of the lamp arm, and the other will be connected to the lamp.

Installation chart of lamp wire



2.3 Adjusting the accessories

Check up the electrical wire, signal wire, pressure pipe and the other accessories is the first step to operate the apparatus. Then put the keystroke to the position "power off".

2.4 System configuration

The display, printer and computer have the default configuration. You can adjust these defaults if you think it is necessary. The adjusting methods can be found on related chapter.

Chapter 3

The use and maintenance of 320 Series ENT Treatment Unit

3.1 The use of 320 Series ENT Treatment Unit

3.1.1 Spray device

a. Add the medical liquid

Unlock the turnbuckle between spray device and medical bottle. Separate out the spray device ,then open the medical bottle counterclockwise and add the liquid into it. Lastly, tighten the turnbuckle between them.

b. Adjust the pressure of the spray device

Firstly, turn on the general power and the spray device power. Pick up the spray device and pump works, then adjust the pressure after pump working .Turn the knob which marked "SPRAY ADJUST" clockwise, the pressure will rise. Contrariwise, the pressure will drop. The spray device works well when the pressure is between 0.1Mpa and 0.15 Mpa. Thirdly, press the valve which is on the spray device and the liquid will spray as the form of brume.

PAY ATTENTION:

Use the spray device , nozzle axis and the horizon maintain $\pm 45^\circ$ extent, avoid inverting . Put the spray device away in the right place after using it , put the pipe away in the cabinet and the pump stops work. Lastly, turn off the power.

3.1.2 Suction device:

The suction pipe connects to the minus pump and works through vacuum suction. It has two suction straw with different calibers .Adopt conical surface to connect suction straw to the nozzle .

Suction pipe operation:

- a. Pick up the suction device and it works. The minus pressure will rise up to 0.07Mpa when it touches the objects.
- b. Adjust the minus pressure: turn the knob clockwise, the minus pressure will rise up; contrariwise, the minus pressure will drop down.
- c. The minus pump will stop work after using the suction device and putting it away in the right place.

3.1.3 Projection lamp

The projection lamp is installed behind the unit and supported by the parallel frame. The light direction can be adjusted on one meter scale by the doctor. The power knob is on the right of the unit.

3.2 The maintenance of 320 Series ENT Treatment Unit

3.2.1 The maintenance of 320 Series ENT Treatment Unit

a. Clean the pipe

Firstly, turn on the power of the suction device. Secondly, suck the distilled water to clean the pipe. Finally, suck the air to dry the pipe.

b. Disinfect the pipe nozzle

Hot sterilization or dip in the disinfectant.

c. The maintenance of spray device

Make sure there is only liquid in the bottle and no solid impurity. Drill through the pipe by the steel wire in case jam in the pipe or spray unequally. Please browse the relevant chapter in warranty when you meet the other troubles which can not be solved by yourself.

d. Electricity and gas circuit trouble

Please browse the relevant chapter in warranty when you meet troubles which can not be solved by yourself.

3.2.2 Problems solving

a. Problems Checking

whether Power supply is Normal or not, connection of Power line and video line is right or not?

Whether the fuse breaks or not?

The replacement of fuse: cut the power and turn the cover of fuse counterclockwise. Take out the fuse and check it, replace a new one if the fuse broke off.

Then install the new one in it and turn the cover clockwise.

Problems solving

| Problems phenomenon | Problems cause | Solving methods |
|--|-----------------------------------|---|
| 1. Indicator light has gone; the system can't work. | Power turns off. | 1. Check the power supply 2. Check the electrical wire 3. Check the fuse 4. According situation to repair or replacement |
| 2. Power supply works well; plus pressure and minus pressure can't work. | 1. Pump can't work 2. Leak gas | 1. Check the plus pressure, minus pressure and gas pump 2. Check the pipe 3. Check the pressure adjuster |

Chapter 4

Transportation and storage of 320 Series ENT Treatment Unit

4.1 Storage

4.1.1 When storage period of instrument exceeds six months, you should take out the instrument from box , check it for 4 hours, and put it into pack-box according to the referential direction marked on pack-box, then take the box to the warehouse. Don't make it close to the ground , wall and rooftop.

4.1.2 The environment temperature of storage instrument is about $-10^{\circ}\text{C}\sim 40^{\circ}\text{C}$. Relative humidity $\leq 80\%$ (20°C). The warehouse requests Ventilated, dry and non-corrosive substance.

4.2 Transportation

There is simple moisture-proof and earthquake-proof facilities in the package, it is suitable to transport by air, railway, freeway and steamship, avoid carrying in the rain ,snow and converting and colliding.