Thank you for using our JorVet J1550 ICU Unit. We want you to get the most out of the machine and to have your experience in using it proceed with ease. Detailed instructions are provided along with the product’s introduction, usage and to correctly use it and take full advantage of all operations and functions.
Summary of Important Notes

1. Please read the Instruction Manual carefully before using the machine. Nurses (and other pet care workers) should be trained to operate the machine under the guidance of qualified medical care personnel who are familiar with the functions and understand the risks and advantages of the machine.
2. Please count the parts and spare parts when unpacking, and read the Instruction Manual carefully.
3. The equipment shall be placed in a clean place with limited changes in temperature and humidity, protected from direct sunlight and away from heat radiation.
4. To ensure the proper operation of the Pet ICU, please fill the bottle with distilled water or purified water.
5. After the machine is turned on, please preset the temperature value, and warm it up for 3-5 minutes before use. Do not use tap water.
6. Please do not load weight on top of the machine, and the maximum load capacity of the machine housing is 1-2 kilograms (2.2 to 4.45 lbs).
7. The machine is equipped with an intelligent alarm system sensor for five faults: extreme temperature, excessive moisture, indoor oxygen concentration, lack-of-water in the tank and power supply interruption. This alarm system is tested and proven to be safe and reliable. If the machine fails, please inspect the systems immediately to find out reasons and eliminate the faults. If the faults cannot be eliminated in a short time, please stop medical treatment or care for pets, and ask for professionals or personnel from the JorVet Company to repair the machine.
8. Allow for the machine to have proper ventilation. Do not block the air outlet and return air inlet.
9. After being powered on, if the machine is not used, in order to ensure safety and energy-saving, please turn the switch to off position and allow for sufficient power down before turning the switch back to on position.
10. Do not use alcohol or other organic solvents to wipe the thermostat cover of the tank. Keep it moisture free.
11. The nebulizer should be unplugged as soon as the nebulization is over.
12. When the LAC alarm can be seen on the humidity display panel, the tank inside should be filled to the maximum level even if the tank has water half of the maximum level.

Product Use

1. Provides bacteria free and thermostatic incubation cocoon for young pets.
2. Allows for body temperature recovery, fluid infusion, atomization treatment, incubation, health improving and comfortable, stable stay in the hospital (for observation for sick, dying and weak pets).

Product Installation

Built-in humidifier bottle: some parts of medical atomizer and the tank are separately packed. Please pay attention not to damage or miss any parts or spare parts when unpacking.
4. External Humidifier Installation (optional J1550D1)

This External humidifier is helping the internal humidifier in our ICU to reach desired RH level more easily, especially in extremely dry environment or under high temperature. The power plug should be plugged into two flat pins receptacle at the rear left corner on the back of the ICU unit, it will be regulated by the ICU motherboard with special programs installed. (Note: Do not confuse this socket with another socket for nebulizer, which is next to this socket for humidifier.) Remove the lid of the air inlet at the back of the ICU, expose the portal, and connect the flexible hose from this humidifier to the ICU air inlet. The end with large diameter is to the back portal of ICU and the end with small diameter it to the top portal of the humidifier.

Take the water tank out of the base, take away the Valve-cup, and fill the water tank with clear water. Close the Valve-cup, and put the water tank on to the base carefully.

After the unit is plugged into either ICU power supply outlet or wall mains, you can start the machine. Rotate clockwise the controller knob to adjust the volume of the vapor. Fog can be seen from the outlet port.

If a warm vapor is needed, press the button below the power button to switch between the default cool mist mode and warm mist mode.

Remarks: the “warm mist mode” will be needed when the ICU unit is set at “high temperature + high humidity”, like greater than 28℃ + 60%RH, the warm mist will definitely help humidifying more quickly. When LAC alarm can be seen on the humidity display panel, the external and internal humidifiers will both stop working. Fill water in the internal water tank to the maximum level and both of the humidifiers will start to work.

In certain cases, such as avian or other exotics, a desired environment of higher humidity and temperature is preferred. In order to achieve these levels you must have increased temperature and increased humidity. For instance, at 100F the humidity can not go beyond 50% relative humidity without the external humidifier.

The external humidifier is not necessary when using the unit on standard mammalian patients like canine and feline.

Nebulization

**NOTE:** NEVER RUN THE UNIT WHEN THERE IS NO WATER IN WATER BASIN. Usage Warning:

a) The treatment process should not exceed 20 minutes for every nebulizing, misuse would possibly cause Pulmonary edema.

b) To prevent superinfection, please pay close attention to the sterilization of nebulizer, ambient air and all the related equipment, also disinfect animal mouth, nose and throat.

**Mechanism of action**

Animal respiratory system is an open system, where alveolus is the main air-exchanging place. The object sprayed out of the nebulizer is mainly the mixture of oxygen and medicine – oxygen-medicine aerosol. This kind of aerosol could improve oxygen metabolism and anoxic metabolism significantly; increase the oxygen reserve in organisms. The cavitation effect of compressed air could disperse the liquid medicine into gas phase and turn the liquid into fog form. The suspended particles will get deep into animal respiratory system and treat the focus of infection directly. The feature of air compressing nebulization technique is generating Big Fog Volume Fog with Ultra Small Particle Size (0.5-5μm); the even fog could go very deep into bronchus and the particles could settle down in deep respiratory system, achieves painless cure effect.

**Tips:**

a) The smaller the particles are, the better curative effect the nebulization could achieve.

b) Normally the fog with bigger particles generated from traditional ultrasonic nebulizer would be easier to be observed, as the fog seems to be thicker.

c) The international of human medical nebulizer is the particles in fog need to be smaller than 5μm.

**Specialized Medical Nebulizer for Animal – Better Curative Effect**

**Air Compressor Nebulizer** Nebulizer uses high pressure gas jet knockout the medicine solution into tiny particles and carry them into deep respiratory system. The size of droplet will affect the settlement site of medical fog.

<table>
<thead>
<tr>
<th>Droplet Size</th>
<th>Settlement Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5μm</td>
<td>Fine Bronchus, Alveolus</td>
</tr>
<tr>
<td>5-20μm</td>
<td>Bronchus</td>
</tr>
<tr>
<td>20-40μm</td>
<td>Upper Respiratory Tract mainly, Nose, Throat, etc.</td>
</tr>
</tbody>
</table>

The patented Energy Saving Low Noise Compressor (less than 25 decibels) generates high speed air jet from filtered clean air (by anti-bacterial cotton), the air stream disperses the medicine solution from liquid cup into tiny particles and form medicine aerosol. The average size of droplet could reach 2.5μm minus which could reach deep respiratory system like alveolus and fine bronchus. The medicine is nebulized evenly, no diluted needed, so there is no residues left almost and could achieve very high medicine utilization rate. This device is precisely made medical equipment with very low faulty rate and very good durability, could serve for 1000 -1500 hours as minimum lifespan.

**Operation Instructions:**

The nebulizer is easy to operate, please follow the simple steps as follows.

1. Install the nebulizer on the left side of ICU. Insert the power plug into the socket on the ICU.
2. Screw off the cup lid and nozzle; pour medicine liquid into the nebulizer cup.
3. Screw on the cup lid and nozzle, and put the nebulizer back.
4. Insert the nozzle of Nebulizer into the port. Turn on the nebulizer by pressing the switch on the nebulizer. And then press Nebulizer button on control panel of ICU to switch on nebulization, the medical fog will be sprayed through grid and get into the ICU chamber. There are two stages of nebulization treatment timing, in which the basic time is 10 minutes. Once the nebulization process started, it is 10 minutes countdown automatically; pressing the “+” button on the nebulizer adjustment button will turn it into 20 minutes mode, pressing the “-” will turn back to 10 minutes mode. Pressing Nebulize button again on the main control panel when the nebulization process is running will switch the nebulizer off.

**Tips:**

a) The smaller the particles are, the better curative effect the nebulization could achieve.

b) Normally the fog with bigger particles generated from traditional ultrasonic nebulizer would be easier to be observed, as the fog seems to be thicker.

c) The international of human medical nebulizer is the particles in fog need to be smaller than 5μm.
1. Accurate Temperature Control—Beijing Equal Everywhere

Heating control adopts dual duct and double circulation convection heating technology to allow temperature rising quickly, and temperature shock is small to ensure the temperature of the ICU can raise evenly.

2. Accurate Humidly Control—Healthy and Balanced

Without being heated, high-frequency oscillation technology is adopted to produce mist. Compared to heating atomization, it can save 90% of energy. During atomization, large amounts of negative ions are released, and have static electricity reaction with smoke and dust in the air, and cause precipitation.

3. Negative-ion Generation—Truly Auxiliary Medical Effect

According to the data released by World Health Organization, negative-ion is called “air vitamin”, and an animal needs about 10 billion ecological negative-Ions every day, while our living environment can only provide about 0.1-2 billion ones; when the negative-ion concentration in the air is up to 400 ones/cm³, it can satisfy our basic needs for survival; when the negative-ion concentration in the air is up to 1000-2000 ones/cm³, it can satisfy our basic needs of health; when the negative-ion concentration in the air is up to 5000-10,000 ones/cm³, it can improve our immunity and antibacterial ability; and when the negative-ion concentration in the air is up to 300,000-500,000 ones/cm³, it can improve our natural healing ability, and many diseases can be healed without medication. Negative-ion plays a significant role in improving the air quality of treatment room and improving and maintaining the health of animals.

JorVet ICU Unit provides a high concentration of negative-ion generator, and the following is the negative-ion test report:

<table>
<thead>
<tr>
<th>MODEL NO</th>
<th>Project Number</th>
<th>Applicable specification and model</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC9-12V</td>
<td>1403140013</td>
<td>JorVet J1550 ICU Unit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electrical Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage/frequency</td>
</tr>
<tr>
<td>Output voltage</td>
</tr>
<tr>
<td>Anion concentration</td>
</tr>
<tr>
<td>Insulation resistance</td>
</tr>
<tr>
<td>Dielectric strength</td>
</tr>
</tbody>
</table>

Tips:
a) There is hissing noise when nebulization starts, that's generated from the high speed air flow. The patented low noise air compressing technology ensures no vibration and no electronic noise when nebulizer runs. The noise is much lower than normal level of most air compressor nebulizer, which is around 85 decibels normally.
b) When nebulization is ON, the ventilation fans will be turned off to ensure good nebulizing effects, and humidity and temperature control will be turned off too. The humidity alarm will not be triggered in nebulization mode, which will reset in 3 minutes after nebulization function turned off.

Functions of the Product

1. Mechnism of ICU

The air circulation system as shown in Figure 5.1.1 is driven by the circulating air of After being filtered by the purifier, the air from the outside enters into the ICU, and “dual duct and double circulation convection heating technology” is adopted to create an excellent and bacteria-free ICU therapeutic environment and young pet incubation environment. It provides clean air and proper temperature and humidity.

2. Main Technical Indicators

1) Power supply voltage: 110V/60Hz
2) Input power: ≤400VA
3) Ambient temperature: 10°C ~ 35°C
4) Temperature control range
   Cabinet temperature: 15°C ~ 38°C (can be up to 39°C by special operations)
5) Temperature fluctuation: ≤0.8°C
6) Average temperature of monitoring chamber: ≤1.0°C
7) Cabinet temperature control accuracy: ≤±0.5°C
8) Temperature rise time: 5min ~ 20min
9) Noises in monitoring room: ≤30dB
10) Whole machine earth leakage current: ≤0.5 mA (normal state) ≤1 mA (single fault state)
11) Withstand voltage: 1500V/50Hz, lasted one minute without breakdown and flashover.
12) Ambient conditions:
   ① Transportation and storage:
      a. Ambient temperature: -10°C ~ 40°C
      b. Relative humidity: ≤95%
   ② Operating conditions:
      a. Ambient temperature: 18°C ~ 30°C
      b. Relative humidity: 40% ~ 65%

3. Product Principles and Functions

Figure 5.1.1
Test equipment: KEC-990 air ion concentration tester, HG3830 high voltage test bench.

Natural phenomenon (negative ions are produced when there is thunder and lightning). Immediately, and then negative ions are formed; the working principle of which is the same (the life of existing electrons is n S level), they will be captured by oxygen molecules (O₂) in the air. Lots of high-speed electrons are released. Since electronics cannot exist in the air for a long time, a booster circuit. DC high voltage from the tip of carbon brush is used to produce high corona and discharge.

The negative ion generator boosts low voltage to negative high voltage DC through the voltage booster circuit. DC high voltage from the tip of carbon brush is used to produce high corona and discharge. In case of no electricity, no abnormalities occur after being placed for 72 hours at ambient temperature of +25°C and relative humidity of 95%.

**Operating temperature range**
-10°C~+40°C

**Operating humidity range**
40%~85%

**Storage temperature**
-20°C~+70°C

**Humidity resistance**
In case of no electricity, no abnormalities occur after being placed for 72 hours at ambient temperature of +70°C.

**High-temperature characteristics**
In case of no electricity, no abnormalities occur after being placed for 72 hours at ambient temperature of 20°C.

**Low-temperature characteristics**
In case of no electricity, no abnormalities occur after being placed for 72 hours at ambient temperature of -20°C.

**Drop test**
Starting at 100cm (39.37") from the ground, free fall onto the board, it will still function properly.

**II Principle of Operation**
The negative ion generator boosts low voltage to negative high voltage DC through the voltage booster circuit. DC high voltage from the tip of carbon brush is used to produce high corona and discharge. In case of no electricity, no abnormalities occur after being placed for 72 hours at ambient temperature of +25°C and relative humidity of 95%.

<table>
<thead>
<tr>
<th>Item</th>
<th>Output Voltage (KV DC)</th>
<th>Anion Concentration (× 10^6 PCS/cm³)</th>
<th>Insulation Resistance MΩ</th>
<th>Dielectric Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>①</td>
<td>−4.45</td>
<td>6.66</td>
<td>OK</td>
<td>OK</td>
</tr>
<tr>
<td>②</td>
<td>−4.56</td>
<td>6.03</td>
<td>OK</td>
<td>OK</td>
</tr>
<tr>
<td>③</td>
<td>−4.35</td>
<td>6.21</td>
<td>OK</td>
<td>OK</td>
</tr>
<tr>
<td>④</td>
<td>−4.36</td>
<td>6.11</td>
<td>OK</td>
<td>OK</td>
</tr>
<tr>
<td>⑤</td>
<td>−4.13</td>
<td>6.24</td>
<td>OK</td>
<td>OK</td>
</tr>
<tr>
<td>⑥</td>
<td>−4.23</td>
<td>6.54</td>
<td>OK</td>
<td>OK</td>
</tr>
<tr>
<td>⑦</td>
<td>−4.09</td>
<td>6.33</td>
<td>OK</td>
<td>OK</td>
</tr>
<tr>
<td>⑧</td>
<td>−4.15</td>
<td>6.83</td>
<td>OK</td>
<td>OK</td>
</tr>
<tr>
<td>⑨</td>
<td>−4.36</td>
<td>6.31</td>
<td>OK</td>
<td>OK</td>
</tr>
<tr>
<td>⑩</td>
<td>−4.21</td>
<td>6.61</td>
<td>OK</td>
<td>OK</td>
</tr>
</tbody>
</table>

Test equipment: KEC-990 air ion concentration tester, HG3830 high voltage test bench.

The above test report shows that: the nearby negative-ion concentration of JorVet J1550 ICU Unit is up to 6 million ones/cm³, standard, which has reached the medical-level Negative-ion emission standard. It is truly air purifying, and is effectively helpful for the rehabilitation and recovery of pets.

4. Sterilization Function ---- Free from Cross-contamination

A UVC ultraviolet ray is the one that truly has germicidal effect, and C ultraviolet of which is easily absorbed by DNA of organisms, especially, ultraviolet ray of 253.7nm is the best. UV sterilizer is a purely physical method of disinfection, which is characterized by simple and convenient operation, high efficiency, no secondary pollution, easy for management and automation etc.

JorVet ICU Unit uses ultraviolet sterilizer, which is characterized by strong radiation intensity, high stability and high transmittance to quartz glass tube. The transmittance is of ≥87% and the radiation intensity is at 253.7-254μm and remains stable. Furthermore, high brightness mirror sterilization reaction chamber design is adopted. Compared with similar products from abroad, the sterilization strength increases by 18% - 27%.

--- Generally, the bactericidal action of ultraviolet ray on bacteria and viruses can achieve sterilization rate of 99% - 99.9% in one to two seconds.

--- The broad-spectrum of ultraviolet sterilization is the highest, and it can efficiently kill almost all bacteria and viruses.

--- The ultraviolet sterilizer has no secondary pollution. No chemicals will be added in ultraviolet sterilization, thus, water and its surrounding environment will not be polluted secondly. Furthermore, it will not change any ingredients in the water.

--- The operation of ultraviolet sterilizer is safe and reliable: traditional disinfection technologies such as chlorine or ozone, the disinfectants themselves are highly toxic and flammable substances, while there is no such potential safety hazard in ultraviolet sterilization system.

5. Nebulizer Treatment Function---- Making the Treatment More Convenient

JorVet ICU Unit is equipped with an external silent medical atomizer, and biomedical engineering research shows: when the atomized particles are about 10 microns, medicines can only deposit in the mouth and throat, when the atomized particles are about 3-6 microns, medicines can enter into the bronchus, and when the atomized particles are less than 2 microns, medicines can enter into the finest bronchus and alveoli. The medical atomizer is characterized by low noise, which complies with pet ICU noise standard.

6. Oxygen Concentration Monitoring Systems---A Defense Line to Guard Life

An increase in carbon dioxide concentration is accompanied by a decrease in oxygen concentration. Being anoxic under low oxygen and high concentration of carbon dioxide for a long time will cause pulmonary edema, cerebral edema, metabolic acidosis, electrolyte imbalance, shock, hypoxic encephalopathy, etc. When the carbon dioxide concentration reaches 1000PPM above, it will cause dizziness, drowsiness and reduced resistance to pets; when the carbon dioxide concentration reaches 2000-5000PPM, it will cause mild nausea, poor breathing, rapid heartbeat and electrolyte imbalance to pets, and seriously affect the health of pets and their postoperative rehabilitation; and when the carbon dioxide concentration is over 5000PPM, it will cause severe hypoxia, coma and even death.
The JorVet J1550 ICU Unit is equipped with a precise oxygen concentration monitor, which can monitor changes in oxygen concentration in the ICU. When being hypoxic state that concentration falls beyond the standard value (exceeds the set value), and cannot exceed the set value for three minutes, it will trigger the alarm system and start the intelligent ventilation system at the same time, being ventilated with the outside air and thus improve the air quality of ICU, which becomes the most important life defense line for pets.

7. ICU Illumination Function---- Creating Comfortable Therapeutic Environment

JorVet J1550 ICU Unit uses ten-level LED lights adjustment, which can simulate various scenes similar to parent, forest oxygen bar, warm home, forest dawn and dusk twilight, etc., providing a cozy and conformable therapeutic environment for pets.

8. Setting of Security Mechanism---- No Worries in Use

JorVet J1550 ICU Unit adopts intelligent alarm system, and is equipped with corresponding fault display function, such as extreme temperature and excessive moisture alarm, lack-of-water alarm and main components fault warning lights. JorVet J1550 ICU Unit is equipped with intelligent switch power keys, dividing into three controls, i.e. power-on, start and power-off. This design is energy saving and safer to use.

9. Human Oriented Structural Design ---- Reasonable Operation, Clean and Convenient

All equipment components of JorVet J1550 ICU Unit adopt integrated design. All components are integrated in a control frame, and completely separated from the control circuit. Only by disassembling the control rack, the whole machine can be disassembled to clean various compo-nents, including fan, medical devices, heat sink and filter etc. The operation is extremely convenient, easy for troubleshooting, maintenance and equipment cleaning. JorVet J1550 ICU Unit is equipped with two medical device import Interface channels, thus external medical equipment (such as oxygen machine) can be connected into the ICU, meanwhile, the side access port adopts medical valve importing design, being convenient for the importing of pets injection and infusion needles and relative sealing and fixing.

Product Operation Instructions

1. Start-up and Shutdown

a) One end of the power cord is plugged into the terminal board at the bottom support of the right side of the machine, and the other end into the socket of 1100V / 60Hz with reliable grounding. See fig. 7.1.2.
b) The power switch is located at the batter brace of the left side of the machine. See fig. 7.1.2. It is the on/off switch of JorVet ICU Unit. When it is locked, all other keys are void; when it is unlocked, all other keys are valid.
c) The lock indicator lamp is at the on/off switch. When it is on, it means unlocked; when it is off, it means locked.

2. Temperature Display

Fahrenheit/centigrade can be switched and displayed with a toggle key. The default temperature is shown in fahrenheit and in two-digit integer and one decimal place after which is a letter showing special indication at the time of setting the temperature parameter. Switch the Fahrenheit / centigrade indicator lamp. When the indicator lamp displays "C", it means centigrade; when it displays "F", it means Fahrenheit. See fig. 7.2.1.

3. Humidity / O2 Concentration Display

Humidity / O2 concentration display can be switched with the humidity / O2 concentration key. The default is humidity display in two-digit integer and one decimal place. O2 concentration is displayed in four-digit integer. Switch the humidity / O2 concentration indicator lamp. When the indicator lamp is "HU", it means humidity; when the indicator lamp is "O2", it means O2 concentration. See fig. 7.3.1.

4. Temperature Control Part

Key control: press "SET" key plus temperature " + / - " key at the same time to adjust the temperature set point, and regulate it by ± 0.1 stepping. See fig. 7.4.1. The factory setting is the set point of 68°F. It can be adjusted down to 59°F and up to 104°F;

Smart alarm function: Alarm for beyond the maximum set point: the temperature and the upper dash are displayed alternately every three seconds with alarm and flashing temperature indicator lamp.
Alarm for beyond the minimum set point: the temperature and the lower dash are displayed alternately every three seconds with alarm and flashing temperature indicator lamp.

Damaged temperature sensor: flashing "ERR" display and flashing temperature indicator lamp in the temperature display.

a) One end of the power cord is plugged into the terminal board at the bottom support of the right side of the machine, and the other end into the socket of 1100V / 60Hz with reliable grounding. See fig. 7.1.2.
b) The power switch is located at the batter brace of the left side of the machine. See fig. 7.1.2. It is the on/off switch of JorVet ICU Unit. When it is locked, all other keys are void; when it is unlocked, all other keys are valid.
c) The lock indicator lamp is at the on/off switch. When it is on, it means unlocked; when it is off, it means locked.

Figure 7.2.1

Figure 7.3.1

Figure 7.4.1
Control program:

a) When the setting temperature is higher than the measured temperature, start the PID precise heating system and left/right fans. When the measured temperature is higher than the setting temperature, stop heating step by step.
b) When the measured temperature is higher than the setting temperature, start the PID precise cooling system (need additionally purchased cooler) and the left fan to realize ventilation and air exchange inside and outside. When the measured temperature is lower than the setting temperature, stop cooling step by step and shut down fans after one-minute delay.
c) When there is no additionally connected cooler, try to place an ice tube inside the atomizing chamber or at the sink as auxiliary cooling. The system will start the right fan and the left fan to realize ventilation and cooling.

Indicator lamp control:
- Heating—the temperature indicator lamp is red
- Cooling—the temperature indicator lamp is blue
- Delay—the temperature indicator lamp is yellow

5. Humidity Control Part

Before humidification, check if the water is enough in the internal water tank. If you have an external humidifier and need high humidity in high temperature or dry environment, just install the external humidifier and start it before setting.

Key control: press “SET” key plus humidity “+/–” key at the same time to adjust the humidity set point, and regulate it by 0.1 stepping. See fig. 7.4.1. The factory setting is the humidity set point of 55%. It can be adjusted down to 40% and up to 65%.

Alarm function:
- a) Alarm for beyond the maximum set point: the humidity and the upper dash are displayed alternately every three seconds with alarm and flashing temperature indicator lamp.
- b) Alarm for beyond the minimum set point: the humidity and the lower dash are displayed alternately every three seconds with alarm and flashing temperature indicator lamp.
- c) Damaged humidity sensor: flashing “ERR” display and flashing humidity indicator lamp in the humidity display.
- d) Internal humidifier water shortage alarm (the water level sensor of the humidifier is disconnected): in this case, if the humidifier is started, the humidity Indicator lamp is off with water shortage alarm. Press “atomization” key again to enter the “atomizer off” status and recover humidity control.

Control program:
- a) When the setting humidity is higher than the measured humidity, start the humidifier and the right fan.
- b) When the measured humidity reaches the setting humidity, stop humidifying.
- c) When the measured humidity is higher than the setting humidity, start dehumidifying and the left fan; reversely start the right fan for air exhaust as auxiliary dehumidifying. If an additionally purchased cooler is connected, start the cooling function for dehumidifying.

Indicator lamp control:
The humidity indicator lamp is always on at the time of humidifying. The humidity indicator lamp is flashing at the time of dehumidifying.

6. Anion Control Part

Press “anion” key to switch it ON; and press it again to switch it OFF.
When the anion is open, the anion indicator lamp is on; when the anion is closed, the anion indicator lamp is off. See fig. 7.6.1.

7. Medical Atomization Control

The atomizing volume of the medical atomizer has two grades, measuring by time and quantity. Press “medical atomization” key to start the atomizing function (it is the higher grade with the atomizing volume of 0.375ml/min and the auto-timing of 10 minutes). Press “atomizing volume regulation” key to adjust to the higher grade and the lower grade of atomizing volume. The lower grade is 0.5ml/min with the auto-timing of 20 minutes. When the medical atomization is started, the atomization indicator lamp is flashing quickly (correspondent to the higher grade). Press “regulation” key to adjust it to the lower grade at the time of which the indicator lamp is slowly flashing. Press “medical atomization” key again to stop atomization, and the atomization indicator lamp is off.

a) Press “atomization” key to start the higher grade; press atomizing volume regulation key “+”. To adjust it to the lower grade, press atomizing volume regulation key “−”. See fig. 7.7.1.

b) Press “atomization” key and get into the medical atomization status (higher grade) during which the humidity display and control are shielded. The humidity display shows accumulated atomization time counting (in seconds). After atomization and 10 sec delay, it automatically exits the atomization mode and reverts to the humidity control mode.

c) During atomization, press “atomization” key to manually stop the atomization mode and revert to the humidity control mode.

d) In the atomization mode, the humidity control is not effective. Therefore, when the humidity exceeds the maximum set point, there is no alarm. If the humidity still exceeds the maximum set point in three minutes after it exits (closes) the medical atomization mode, the alarm is started.

Atomizer water shortage alarm: when the water tank or the medicine cup of the atomizer is short of water, stop atomization. The humidity display shows “ELAC” and the atomization lamp is off with water shortage alarm. Press “atomization” key again to enter the “atomizer off” status and recover humidity display.

12

Figure 7.5.1

Figure 7.6.1

Figure 7.7.1

Figure 7.8.1
8. Disinfection and Sterilization Control Part

a) On: before starting the sterilization function, make sure that there is no pet in the ICU and the ICU door is closed. Meanwhile, press "SET" key plus "sterilization" key to enter the disinfection mode. See fig. 7.8.1.
b) Operation: under this mode, all other function keys are void except "SET" key and "sterilization" key. Both temperature display and humidity display show "DISI" (abbreviated disinfection); under the disinfection mode, switch on the UV disinfection lamp. There is violet light inside the ICU (with weak acrid scent). Meanwhile, start the left fan and the right fan to effect ventilation inside.
c) Off: press "SET" key plus "disinfection" key at the same time again to switch off the UV disinfection lamp, the disinfection indication lamp and the left fan to exit the disinfection mode and recover the normal work mode. At this time all function keys are valid except the disinfection key.

Note: when the ICU is under the normal work mode, it is invalid to press "disinfection" key individually.

9. Illumination Intensity Control

Press illumination adjustment key "+/-" to adjust ten grades of illumination intensity. See fig. 7.9.1. The highest is grade nine and the lowest is closed. Under the Initial start-up status, it is closed.

10. O₂ concentration monitoring

Key control: press "SET" key for five seconds to enter the parameters setting status. The humidity / O₂ display shows flashing digits of O₂ concentration set value. When the indicator lamp "P" (O₂ concentration) is flashing, it is able to adjust the set value of O₂ concentration alarm. Now press humidity "+/-" key to adjust O₂ set value by ±1 stepping. The default factory setting is the alarm set point of 21%.

11. Alarm Removal Key

Press "SET" key to remove disengage alarms. See fig. 7.11.1.

Cleaning and Maintenance

1. Disinfection & Sterilization: after incubation or caring of one pet finishes treatment and care, it is suggested to disinfect and sterilize this machine. Do this once every week when not in use.

2. Separate cleaning of the Humidifier

If the Humidifier fails to produce moisture, or the water spills out, take the following measures:

a) As shown in Figure 8.2.1-a, open the cover plate of the right Control Rack.
b) As shown in Figure 8.2.1-b and Figure 8.2.1-c, remove Water Level Sensors and Humidifier from the Water Vessel. Take out the Water Vessel.
c) As shown in Figure 8.2.1-d, empty the Vessel. Brush off the mineral substance such as water scale or verdigris on the Vessel, Water Level Sensors and Humidifier. If the filter of the Humidifier fails to work, replace with a new filter.
d) Install Water Level Sensor and Humidifier, place the water vessel back and secure the cover plate.
3. Complete Cleaning and Maintenance: remove and clean parts and assemblies periodically. Desired results are achieved only by cleaning after removal.

Steps for Disassembling Components:
Remove four screws from the master control rack on the right to take down the right master control rack, (remove the left master control rack in the same way). See fig. 8.3.1. Remove power connection plugs on power cords on one side of the master control rack one by one. Note that plugs have different colors for each electrical component. Warning: do not remove control racks or electrical components from control racks immediately after shut down; give it some time to cool down. The heaters in control racks reach high temperature. Remove control racks or contact heaters after a 30 minutes respite after shutdown.

Remove four screws in the fan box and take out the whole heater. Clean the fan. Try not to remove heat sinks from the fan, especially PTC heater bands that cannot be removed from heat sinks. See fig. 8.3.2.

Remove and clean filters behind the square plastic section inside the chamber.

Take out the humidifier. If it is working normally, it is not necessary to clean the humidifier. For separate cleaning of the humidifier, it is not necessary to remove control racks. See the chapter of separate cleaning of the humidifier above. If the humidifier is definitely damaged or does not work after separate cleaning, remove the humidifier for cleaning and maintenance. (See fig. 8.3.3):

a) As shown in Figure 8.3.3-a, Open the cover plate of the Water Vessel of the humidifier (on the control rack).
b) As shown in Figure 8.3.3-b remove Humidifier from the Water Vessel and as shown in Figure 8.3.3-c, remove Water Level Sensors.
c) Take out the Water Vessel of the humidifier as shown in Figure 8.3.3-d.

4. Cleaning
The ICU must be empty at the time of cleaning. Cleaning is feasible only after removal.

5. Maintenance
It is suggested to maintain the machine every two months during normal operation, which shall be carried out in accordance with removal, installation and maintenance procedures above.
### Troubleshooting

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<th>Phenomenon</th>
<th>Cause analysis</th>
<th>Solution</th>
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| After the power switch is pressed, there is no reaction or the power     | 1. Bad power connection and plug connection  
2. Damaged switch                                                           | 1. Check power connection  
2. Replace the power switch                                                      |
| indicator lamp is still off                                              |                                                                                                                                                |                                                                                            |
| **Phenomenon**                                                            | **Cause analysis**                                                                                                                                | **Solution**                                                                              |
| Little atomizing volume form the medical atomizer                        | 1. Too big atomizing particles of solution causes little atomizing volume  
2. Solution contains syrup or colloform  
3. Tablets are used for dissolution  
4. Oily impurities on the surface of solution                                 | 1. Too big particles are not suitable for operation of this atomizer  
2. When solution contains syrup or colloform, it requires with dry filter paper  
3. When tablets are used for dissolution, dissolve sediments to remove impurities first  
4. Remove oily impurities on the surface of solution with clean tissue firstvvv |
| No atomizing from the atomizer                                          | 1. Water shortage of the water tank the atomizer  
2. Damaged ultrasonic chip of the atomizer  
3. Water scale in the tank of the atomizer                                      | 1. Add water into the water tank until it is at the same level of the cup bottom  
2. Replace the ultrasonic chip  
3. Gently scrub the inside of the tank with lint                                 |
| Remaining solution not atomized in the cup after atomization of the medical atomizer | Atomizing time and volume depend on concentration of atomizing liquid                                                                      | Repeat the atomization operation procedure if not completely atomized once                |
| The humidity is not increased after raising the set point of humidity    | 1. Water shortage in the bottle of the humidifier  
2. Damaged chip of the humidifier  
3. Water scale in the metal water level sensor inside the humidifier tank         | 1. Add water into the bottle  
2. Replace the humidifier  
3. Remove water scale inside according to the chapter of "separate cleaning of the humidifier", or try to dip some vinegar into the water bottle of the humidifier |
| **Operational keys on the panel do not work**                            | **Bad contact of panel plugins**  
**Damaged panel keys**                                                        | **1. Install plug-ins properly**  
**2. Replace the panel**                                                        |
| No heating                                                                | 1. Failed or damaged fan  
2. Heater (heat sink) with bad contact or damaged  
3. ICU door opened                                                            | 1. Check and replace fan  
2. Replace heater band or heat sink  
3. Close ICU door                                                                 |
| No cooling                                                                | 1. No external cooler connected  
2. Cooling pipe of the cooler not connected to the tank  
3. Signal line of the cooler not connected to the machine                      | 1. Connect it to an externally purchased cooler  
2. Check the cooling pipe  
3. Plug the signal line into the cooling socket of the tank                     |
| Continuous alarm for O₂ concentration                                   | 1. Failed or damaged fan  
2. Not enough instant ventilation inside the chamber  
3. Damaged O₂ sensor                                                           | 1. Check fans  
2. Open the ICU door  
3. Replace the O₂ concentration sensor                                           |
JorVet ICU Unit
Instructions on Maintenance

Dear user:
Thank you for using the JorVet ICU Unit. We provide following services as dictated in this warranty manual (and the invoice or other certificates of product purchase according to “Law of the People’s Republic of China on Protection of Consumers’ Rights and Interests”, as well as “Provisions on the Liability for the Repair, Replacement and Return of Some Commodities” issued by the CSBTS and the Bureau of Finance.

1. One-year warranty for the whole machine.
2. Two-year warranty for key components (including medical atomizer, humidifier, anion generator, ultrasonic sterilizer, fan, tank, door, master control panel, PTC heating chip).
3. Six-month warranty (from date of purchase) for replacement of key integral parts (including medical atomizer, humidifier)
4. Warranty services are not provided under the following situations, (but paid repair services are available for the life time of the equipment).
   [A] No warranty card or any other certificate of product purchase presented
   [B] Altered certificate of product purchase
   [C] Damage caused by accident, abuse or misuse
   [D] Repair privately without authorization of our company
   [E] Products can be used after repair beyond the valid period of the three warranties
5. The valid period of the three warranties is from the date of product purchase, not including time of repair and waiting for components if out of stock. During the valid period of three warranties, consumers can have products repaired, replaced or returned with invoice or certificates of product purchase.
6. Within 15 days after purchase, consumers can return, replace or repair products if there is any performance failure found.
7. Within 30 days after purchase, consumers can replace or repair products if there is any performance failure found.
8. “Performance failure” indicates that products cannot meet safety and hygiene requirements with unreasonable danger threatening safety of human body or properties; or products do not have complete functional performance as required, or cannot meet explicitly expressed quality conditions.
Advance replacement warranty service:
Your warranty service may involve advance replacement warranty service. If the hardware is found to be defective after diagnosis, we will send replacement parts directly to you. After receiving the replacement, you must return the defective part to us within the specified period (normally five days). The transportation and insurance fees rising from return of the defective part needs to be paid by you. If you cannot return the defective part, we will ask you for replacement fees. We provide replacement services during normal working hours, 8:00 a.m. to 5:00 p.m. Monday to Friday. The office time may be different according to local time zones.

Mail Warranty Service
Your warranty service may involve mail or courier. According to mail service provisions, you must send defective hardware to an authorized maintenance facility via freight collect. We will repair and return it to you.
Door-to-door pickup and return warranty service:
Your warranty service may involve door-to-door pickup and return services. The company or a designated repair point will send technical employees to pick up defective hardware at your location and send it back after repair. For such services, the company pays all maintenance, transportation and insurance fees.
User Instructions:
For products beyond the warranty period, either the company sends service employees to pick up or you can mail the defective part to the maintenance point. We provide our repair or replacement services and parts (fees for maintenance after warranty) covering shipment costs, labor costs for repair and component cost. Users can refuse to pay if maintainers cannot comply with unified charging standards of the company.
Contact Customer Support and Service:
If information provided in these user instructions cannot solve your problem, contact the customer support of JorVet Company at this website: www.jorvet.com
Here you can:
1. Communicate with our technical employees online.
2. Use English if technical support is not available in some specific language.
3. Send an email to the customer support of JorVet;
4. Find the global/domestic customer support telephone number of JorVet
5. Find JorVet service center.