

User Manual

Portable Suction Unit

Serial number: REFJLP-00X Version: A/1

Issued date: 2018-02-05

1 Description and Intended use

The HOMED portable Suction Unit is a low noise level and compact medical suctioning device which can be powered by AC current, it adopts oil-free lubricating pump, avoiding the pollution of oil mist.

The device is composed of vacuum pump, plastic cover, collection bottle and connection tubing.

The device is intended to be used to remove sputum, mucus or other body fluids from a patient's airway or respiratory system. It is for use on the order of a physician only.

Higher vacuum levels are generally selected for oropharyngeal suctioning, and lower vacuum level are usually selected for tracheal suctioning and the suctioning of children.

The user manual is right for models of JLP-001, JLP-002, which have the same intended use and technical specifications, only the shape of enclosures are different.

Device features:

- Easy to operate, low vibrations and quiet;
- Superior performance and high reliability for continuous operation design;
- Smooth surface and easy to clean;
- Collection bottle with overflow protection;
- Oil free lubricating pump, rapid vacuum build-up;
- Powerful and high suction capacity.

2 Danger, Warnings and Precautions

When using the suction unit, basic safety precautions should always be followed, read all instructions before using.

Danger:

- *Do not place or store product where it can fall or be pulled into a tub or sink;
- *Do not place in or drop into water or other liquid;
- *Do not reach for a product that has fallen into water, unplug immediately.
- *The portable suction unit is a vacuum suction device designed for the collection of nonflammable fluid materials in medical applications only. Improper use during medical applications can cause injury or death.

Warning:

- *Do not disassemble the unit, to reduce the risk of electrical shock or injury to persons. Disassembly or attempted repairs if accomplished incorrectly can create electrical shock hazard. Only qualified technicians should perform servicing of this suction unit.
- *Use this product only for its intended use as described in this instruction;
- *Never operate this suction unit if:
 - It has a damaged power cord or plug;
 - It is not working properly;
 - It has been dropped or damaged;
 - It has been dropped into water.

- *Return the product to an authorized medical equipment service center for examination and repair;
- *Keep the power cord away from heated surfaces;
- *Never use while drowsy or asleep;
- *Keep the collection bottle in horizontal position to prevent collection spilling;
- *Check the collection bottle and tubing, make sure no damage before using.
- * Not for use in an oxygen rich or flammable gas rich environment.
- *The suction unit has to pause for 30 minutes after working for 20 minutes.

Precautions:

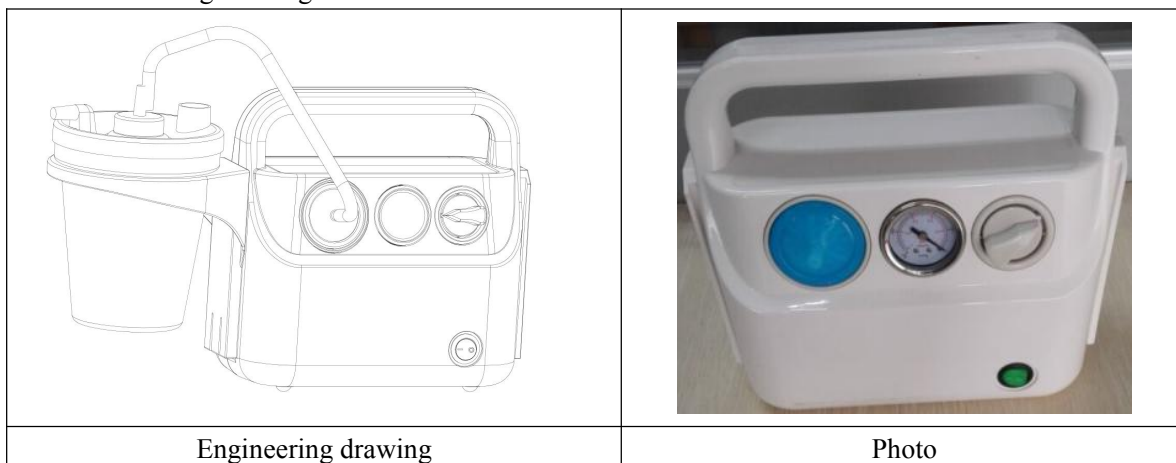
- *All suctioning should be done in strict accordance with appropriate procedures that have been established by a licensed medical authority.
- *Some attachments or accessories may not fit the tubing supplied. All attachments or accessories should be checked prior to use to assure proper fit.
- *HOMED portable suction unit is used with a power supply allowing operation on AC voltage 100-240V, 50/60Hz.

3 Device information and Content information

Your JLP-00X suction unit contains the following components:

- One Vacuum motor
- One collection bottle (1200CC)
- One collection bottle holder
- One air tubing
- One power cable
- One suction tubing
- One User Manual

HOMED suction unit consists of vacuum motor, collection bottle, suction tubing and power adapter, see the following drawing for details:



Statement: The parts in table above are required for correct function and that they have to be in compliance with this European Standard.

Handling

The shipping container has been designed to assure protection of this device, if the device is to be












reshipped by common carrier, it should be packed in the same carton.

Information of power adaptor

Input: AC100-240V 50/60HZ, 1.0A max

Output: 12V, 1.25A

4 Description of symbols

Symbol	Explanation
	Manufacturer
	Authorised representative in the European Community
	Lot Number
	Serial Number
	Date of Manufacture
	Caution
	Waste Electrical and Electronic Equipment (WEEE)
	The CE conformity marking
	Refer to the instructions
	Type B applied part
	Class II equipment

5 Operating Instructions

1 Before use, check the specification label on the side of the suction unit to ensure that the voltage and current indicated on the unit correspond with the voltage and current available. Make sure the power switch located on the side of the unit is in the “O” position before connecting the unit to a power source.

2 Switch the power switch to “I” position (on) , the unit start running.

3 Adjust the vacuum level from 0 to 520mm Hg by turning the vacuum adjust knob. Refer to the vacuum gauge while setting the desired level of vacuum. To accurately read the gauge, block the patient end of the hose or cap off the collection bottle and allow the gauge to reach a stable vacuum reading.

4 Place the patient tubing to the appropriate position of patient and start to suck sputum.

5 When the sputum reaches the safe full level of collection bottle, the suctioning will stop sucking automatically. (Float shut-off)

6 Switch the power switch to “O” position (off) , shut off the suction motor.

7 Remove the sputum from collection bottle after the motor stops turning completely. (Please refer to the section “Cleaning and Disinfection” on page 6 for the directions of how to clean the collection bottle) .

8 Turn on the unit and start to run the suction unit again.

Note:

1 If the unit sustains a severe drop, validity of the gauge must be checked. Inspect if the float shut-off is still functioning properly when the liquid in the collection bottle reaches the safe full level.

2 Always transport unit with vacuum adjust knob rotated fully clockwise in case unit is dropped.

Caution:

1 When automatic float shut-off is activated, contents of the collection bottles should be emptied. Further suctioning could cause damage to the vacuum pump.

2 Should fluid be aspirated back into the unit, send your suction to an authorized service center for a detailed inspection as the vacuum pump may have been damaged.

6 Cleaning and Disinfection

Clean collection bottle:

1 Turn off the suction unit and allow vacuum to drop, then disconnect AC power source.

2 With the collection bottle still in the holder, remove the collection bottle lid, the bottle can now be taken out of the holder to be emptied.

Note: collection bottle should be emptied after each use.

3 Collection bottle should be thoroughly clean after each use by one of the following three methods:

a. Wash in a hot water/dishwashing detergent solution and rinse with clean, hot tap water. Then wash in one part vinegar to three parts hot water solution. Rinse with hot tap water and air dry.

b. Wash with rubbing alcohol and air dry.

c. Wash with a commercial disinfectant; follow disinfectant manufacturer’s recommended instructions and dilution rates carefully.

Clean suction unit and collection bottle lid:

1. Disconnect the suction unit from all external power sources.

2. Wipe the suction unit housing and collection bottle lid with a clean cloth and any commercial disinfectant.

Warning: Do not submerge in water as this will result in severe damage to the vacuum pump.

Warning:

*The waster in collection bottle may cause respiratory infection which must be handled according to medical waster disposing regulation. Operator must wear gloves and medical class mask before cleaning the collection bottle, tubing and handle the wasting unit and/or accessories.

*The suction tubing is for single use only, DO NOT reuse it, and also DO NOT use the tubing if the package is broken before it is unopened.

Bacteria filter change:

Bacteria filter should be replaced every two month. If overflow occurs, change the filter immediately. Remove filter by disconnecting it from tubing connected to pressure adjusting valve and tubing connected to collection bottle lid assembly.

Replace with a new bacteria filter and connect to above two tubing. Additional filters can be purchased from an authorized dealer.

7 Technical specifications

Item	Specification
Power requirement	220 AC, 50Hz
Power consumption	60W
Free air flow rate	$\geq 14\text{L/min}$
Maximum vacuum	$\geq 0.08\text{MPa}$
Operating atmospheric pressure	0.1--0.7MPa
Sound level	$\leq 60\text{dB (A)}$
Operating environment	10°C ~ 40°C
Dimensions	246*120*229mm (L*W*H)
Weight	2.3Kg

8 EMC information

This medical device manufactured by HOMED conforms to this EN60601-1-2:2007 standard for both immunity and emissions.

Nevertheless, special precautions need to be observed:

Note: Do not use mobile (cellular) telephones and other devices which generate strong electrical or electromagnetic fields, near the medical device.

This may result in incorrect operation of the unit and create a potentially unsafe situation.

Recommendation is to keep a minimum distance of 7 m. Verify correct operation of the device in case the distance is shorter. See the table 8.1 to table 8.4 in the following:

Table 8.1 Electromagnetic emissions


JLP-00X series suction units are intended for use in the electromagnetic environment specified below; The customer or the user should assure that it is used in such and environment.		
Emission test	Compliance	Electromagnetic environment-guidance
RF emissions CISPR 11	Group 1	JLP-00X uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class A	
Harmonic emissions IEC 61000-3-2	Not applicable	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Not applicable	

Table 8.2 Electromagnetic Immunity

Guidance and manufacture's declaration – electromagnetic immunity			
JLP-00X is intended for use in the electromagnetic environment specified below. The customer or the user should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floor are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines	Not applicable	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV line to line ±2 kV line to ground	Not applicable	Mains power quality should be that of a typical commercial or hospital environment.
Power frequency (50/60Hz) magnetic field IEC 61000-4-8	3A/m	3A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Table 8.3 Electromagnetic Immunity

Guidance and manufacture's declaration – electromagnetic immunity
JLP-00X is intended for use in the electromagnetic environment specified below. The customer or the user should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment -guidance
<p>Conducted RF IEC 61000-4-6</p> <p>Radiated RF IEC 61000-4-3</p>	<p>3 Vrms 150 kHz to 80 MHz</p> <p>3 V/m 80 MHz to 2.5 GHz</p>	<p>Not applicable</p> <p>3 V/m</p>	<p>Portable and mobile RF communications equipment should be used no closer to any part of JLP-00X, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance</p> $d=1.2\sqrt{P}$ <p>$d=1.2\sqrt{P}$ 80 MHz to 800 MHz</p> $d=2.3\sqrt{P}$ 800 MHz to 2.5 GHz <p>Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,a should be less than the compliance level in each frequency range.b</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 

NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which JLP-00X is used exceeds the applicable RF compliance level above, JLP-00X should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating JLP-00X

b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Table 8.4 Electromagnetic Immunity

JLP-00X is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and JLP-00X as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter (W)	Separation distance according to frequency of transmitter (m)		
	150 kHz to 80 MHz $d=1.2\sqrt{P}$	80 MHz to 800 MHz $d=1.2\sqrt{P}$	800 MHz to 2.5 GHz $d=2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

9 Troubleshooting

Problem	Action
Unit does not turn on	Check power source and connection
	Ensure that the wall outlet is live
	Check power cord is not damage
Motor runs, no vacuum	Verify tubing connection security
	Check for leaks or tubing kinks
	Ensure that float shut-off is not activated
	Check for bottle leaks and cracks
Low vacuum	Use vacuum adjust knob to increase vacuum level
	Check system for leaks
	Adjust vacuum, knob and release

10 Warranty and Validity

Validity of Main Unit: Two years

Validity of suction tubing: single use

Note: Do not attempt to open or remove the suction cabinet, it maybe cause electric shock hazard, and opening or tampering with the unit will void warranty.

The legal provisions in this respect apply. The warranty is limited to detective material and workmanship. Batteries and cable are not covered by the warranty, damage through misuse or modification is not covered. The warranty is only valid if the product has neither been opened nor subjected to violence or willful damage and it is return with the original receipt. Contact your dealer if you have any complaints. For further information contact the customers service (TeL: +86 0755 29821671/29821673/29821675, E-mail: sales-oe@systems.citizen.co.jp). In the event of warranty

claims being deemed to be justified, the customer concerned will be supplied with a replacement product. The customer is only entitled to receive a comparable replacement product.

WEEE information



■ Caution: Instructions for a correct disposal of the product.

Disposal requirement: Comply with WEEE directive, it must be disposed of in accordance with the locally applicable regulations, not with domestic waste.

11 Address



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