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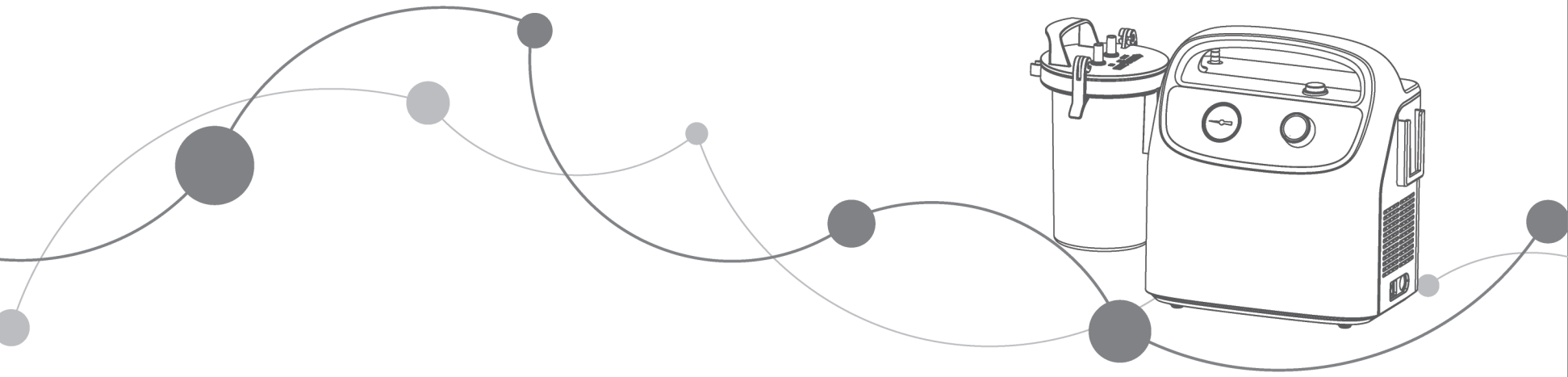

7E-H1

Portable Phlegm Suction Unit

User's Manual

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130524-1A

Please read the user's manual closely before using!

Contents

I. Safety Guidelines

Warning: This product is precisely manufactured, finely assembled and wired. Therefore, do not disassemble or attempt to repair.
All repairs must be carried out by qualified personnel at authorized repair centers.

I. Important Safety Measures

The following basic safeguards must be followed when using the electrical product, especially for children:

- Danger: Reduce the risk of electric shock
  1. Cut off the power supply immediately after each use.
  2. Immediately cut off the power when the machine falls into water rather than reach for it.
  3. Do not place or store the machine where water or other liquid is easy to drip.
  4. Do not touch the machine when it is wet.
  5. Do not disassemble the machine. Services should be performed by qualified service personnel.
  6. Regularly check electrical safety indicators of the machine.
- Warning: Reduce the risk of burns, electric shocks, fire or personal injury
  1. When the machine is powered on, it must not be left unattended.
  2. Timely monitor the products when they are used by children or individuals.
  3. This manual only describes the usage of the product. Do not use accessories other than those recommended by the manufacturer. Otherwise, it will degrade the machine performance.
  4. Please do not use the machine and return it to the service center for inspection and repair when the following situations occur:
  The power cable or plug is damaged, the machine cannot work properly, the machine has been dropped or destroyed, the machine has fallen into water, etc.
  5. Keep the power cable away from the surface of heating or heating device.
  6. Do not block the air vent of the product, and keep the air clear of stuff such as soft cloth or fluff.
  7. Do not drip or insert any substance into the machine orifice.
  8. Notice during operating that the excessive negative pressure may cause personal injury.

II. Product Features

I. Application

- Scope of application: For sucking viscous liquid such as pus blood and phlegm
- No contraindications.
- Not suitable in field or during operating

II. Structural Characteristics and Working Principle

- The product structure is composed of negative pressure pump, shell, liquid storage bottle, negative pressure indicator, air filter and suction tube.
  NOTE: This product uses the vacuum gauge as negative pressure indicator. The vacuum gauge belongs to negative pressure indicator (the vacuum gauge here-under refers to negative pressure indicator)
- Use the oil-free lubrication pump, so that the environment is not polluted by oil mist.
- Low noise.
- The equipment will not produce positive pressure in operation, to ensure its reliable performance and safe use.
- The negative pressure regulation system can adopt the stepless voltage regulation upon need.
- Small in size, light in weight and portable.
- The operating principle diagram shown as follows:

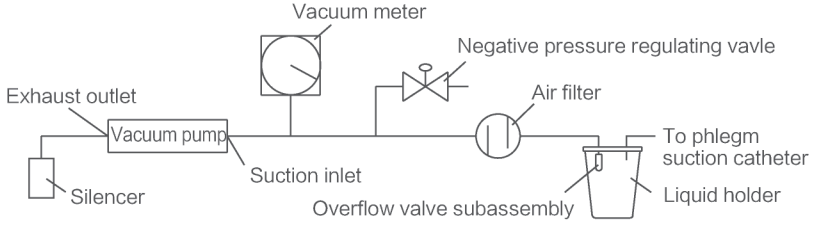


Fig. 1 Operating principle diagram

III. Main Technical Performances

1. High vacuum, high flow
2. Power supply:
□AC110V □AC127V □AC220V □AC230V □AC240V
3. Frequency: □50Hz □60Hz
4. Input power: 120VA
5. Maximum vacuum: (85±5)kPa
6. Adjustable range of the negative pressure (no lower than):
20kPa to limit negative pressure value
7. Flow rate(measuring point at the device inlet): (28±4)l/min
8. Fuse: F1.6AL 250V, Φ5×20
9. Liquid storage bottle: ≥1000mL,1pc
10. Noise: ≤65dB(A)
11. Net weight: 3.9kg
12. Dimension: 480×165×285(mm)
13. Service life: 5 years (except for fragile and consumable parts)

⊘ Non AP/ non APG equipment (The equipment cannot be used with flammable anesthetic gas mixed with air or flammable anesthetic gas mixed with oxygen or nitrous oxide).

- Duty Cycle: 30 minutes on, 30minutes off.
- Electric shock protection category: Class II external power supply equipment
- Electric shock protection degree: B type applied parts
- Ingress of liquid protection category: IPX0

IV. Conditions for Normal Operation

Ambient temperature range: +5℃~+35℃ Relative humidity range: 30%~80%
Atmospheric pressure range: 86kPa~106kPa

ⓘ **Notice:** When the storage and transport temperature is lower than 5℃, the device should be placed in the normal operating temperature environment for more than 4h before using.

III. Installing and Commissioning

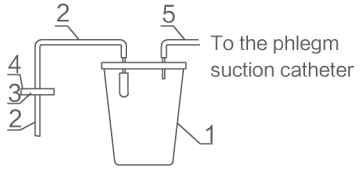
I. Open Package Inspection

ⓘ Before product installing and commissioning, the user should check whether the product appearance is good and whether the variety and quantity of accessories are consistent with the list of accessories. In case of any defect, please contact the supplier or manufacturer in time.

II. Connecting (refer to Fig. 2)

(Refer to the tube connection diagram, with phlegm suction catheter temporarily not connected)

ⓘ **Notice:** Before installation, apply a small amount of distilled water on the pressing part of the bottle cap to tighten and enhance its sealing.



1. Liquid storage bottle 2. Suction tube 3. Air filter
4. "Inlet" mark 5. Suction soft tube

Fig. 2 Tube connecting diagram

III. Connect the Power Supply

Connect the power plug to the power supply, and turn on the power supply, and the power indicator will illuminate.

ⓘ **Notice:** The power cut-off device of this product is the power plug.

IV. Connector Inspection

- Tighten negative pressure regulating valve clockwise, and block the air suction inlet with finger or dropper rubber tip, or fold up and hold suction soft tube.
- Start the phlegm suction unit for running with no strange sound; the pointer on the vacuum gauge will quickly reach up to the limit negative pressure value.
- Release the air suction inlet, the pointer will return to below 20kPa. Compliance with the above conditions means the tube connection is correct.
  Attach the phlegm suction catheter. When the 2.67mm(F8) suction catheter is connected, the negative pressure value is below 60kPa; when a 4.0mm(F12) suction catheter is connected, the negative pressure is less than 30kPa. Compliance with the above conditions means the phlegm suction unit is normal and the suction catheter is unblocked.

ⓘ **NOTE:** If the suction catheter is blocked, use the following method to dredge: Bend the suction conductor into a "V" form (with no liquid in the liquid storage bottle), so that when the negative pressure value reaches the maximum, the suction catheter will be quickly restored to its original state. Repeat the operation and force the suction catheter is unblocked.

V. Negative Pressure Regulating

- Block the suction inlet, open the phlegm suction unit switch, adjust the negative pressure regulating valve, the reading on the vacuum gauge should not be within the range of 20kPa ~ the limit negative pressure value.
- During clinical practice, the negative pressure regulating valve is used to control the negative pressure value required by phlegm suction.
- Keeping turning the negative pressure control valve clockwise and the negative pressure increases.
- Reduce the negative pressure below 0.02MPa prior to power shut-off.
- Adjust the required negative pressure according to the actual situation of the patient, notice that excessive negative pressure may cause personal injury.

VI. Inspection and Test on the Overflow Device

- Open the bottle plug, clean the valve port. Press the rubber valve clack on the flat float, the valve clack should have no defects such as warping and rupture, and the float is well connected. The float should move flexibly inside the float frame without any blockage.
- Lift the bottle plug with hand, slowly move the bottle plug down so that the float is in vertical contact with the water. The float should be able to float in the float frame.

- Tighten the bottle plug, attach the suction soft tube conductor at the inlet, and tighten the regulating valve, and run the phlegm suction unit.
- Put the suction conductor into a clear water bucket or simulate the normal use situation. Suck the liquid into the liquid storage bottle with overflow device. The liquid level rises, which will drive the float up, until the valve is closed, the suction automatically stop. The final level of the liquid level will change depending on the suction method.
- Release the regulating valve, set the phlegm suction unit switch off, open the bottle plug, empty the liquid storage bottle. The float should be at the bottom of the float frame with the valve opening when the plug is re-tightened.
- Compliance with the above conditions means the overflow device works normally, which can be used for clinical practice.

ⓘ **Notice:** After the overflow device is shut off, the liquid level still continues to rise, possibly due to:
(1)Residual negative pressure still in the liquid storage bottle; (2) The valve port is not fully closed.
For first situation: When the suction tube conductor leaves the liquid to be sucked and then extends into it, the liquid level in the liquid storage bottle should no longer rise; for second situation: The liquid level continues to rise. Carefully observe. When the liquid storage bottle is almost full, immediately remove the suction tube conductor from the liquid, switch off the phlegm suction unit, stop suction, and conduct troubleshooting.
Suction stops after the float closes the valve port. But because of the negative pressure in the pipe, the float may still be sucked on the valve port.

- Release the regulating valve or switch off the phlegm suction unit, release the negative pressure in the pipeline. Under the action of gravity, the float falls from the valve port. (It is strictly forbidden to pull the float by hand to prevent the rubber valve plate from detaching from the float. If there is mucus on the float, clean it thoroughly before another use.)
- After shutdown, release the negative pressure before opening the bottle cap.

ⓘ It is strictly prohibited to use the phlegm suction unit when the overflow device is removed.

ⓘ In case of overflow, the suction tube should be immediately removed from the liquid. Switch off the phlegm suction unit and stop suction. Re-check and test the overflow device. Contact the manufacturer, if necessary.

VII. Stop Running

After installing, commissioning or use, switch off the phlegm suction unit. Remove the power plug from the power socket and cut off the main power supply.

VIII. Safety Related Symbols and their Meaning

Symbols	Description	Symbols	Description
~	Alternating current		Type B application part
	Class II Equipment		General warning sign
	OFF (Power)		ON (Power)
	FRAGILE	IPX0	Non-protection
	KEEP DRY		KEEP UP
	Manufacturer		
	The environmental protection service life of the pollution control signs of electronic information products is 5 years, excluding consumables.		

IV. Application and Maintenance

I. Application and Maintenance

- Before use, check the phlegm suction unit according to the installation and commissioning procedure, ensure that its performance is in good condition. And then, connect the sterilized suction tube conductor and suction catheter. It can then be put into operation.

ⓘ **Notice:** Please refer to the instructions before attempting to use the suction catheter supplied with the device.

- Use the regulating valve to make adjustment to the required negative pressure value, and open or close the switch depending on the situation. Frequently pay attention to the liquid level inside the liquid storage bottle. When the liquid level rises to the calibration capacity of the liquid storage bottle (it is still applicable within 10 degrees of the maximum tilt of the unit), the phlegm suction unit should be stopped and the liquid storage bottle should be emptied and cleaned before use. Otherwise, the liquid level will drive the float to rise until the valve is closed, forcing the suction to stop automatically.

ⓘ **Notice:** If the liquid level still continues to rise after the overflow device is closed, adopt to the procedures mentioned in "inspect and test on the overflow device".

- Emergency measures during use:
  (1) When thick phlegm and mucus block the suction tube, quickly loosen the negative pressure regulating valve, release the negative pressure. The suction tube should be replaced before phlegm suction.
  (2) If it is not easy to remove the human tissue from the suction catheter after phlegm sucking, the negative pressure regulating valve should be loosened according to the above method.
- Before phlegm sucking, fold the suction soft tube into a "V" form. After the negative pressure reaches the required range, insert the suction soft catheter into the patient's phlegm blocking site, and then restore the suction soft tube to its original state for phlegm sucking, and the effect will be quicker.
- The size of the suction catheter will be selected by the medical staff according to clinical requirements.
- The suction tube should be operated under the guidance of qualified medical personnel in strict accordance with the instructions and operating procedures. In case of any doubt, please contact the supplier or manufacturer.

ⓘ **Notice:**

- The startup duration cannot exceed 30 minutes
- The suction amount of phlegm should not exceed the highest liquid level warning mark
- If negative pressure is insufficient, tighten the bottle cap and tube connector

II. Maintenance after Use

- Before shutdown, it is recommended that the suction catheter should suck a small amount of clean water to clean the inner wall of the pipe.
- After shut off, empty the liquid storage bottle, use a soft brush or cloth to remove the dirt on the bottle and cap, and then rinse with clean water. (Including overflow device, gasket and various tubes), remove the overflow device when necessary, detach the float frame and float for thorough cleaning (notice: rubber valve plate shall not be detached from the float).
- After using the suction tube, use physiological saline to clean the residual thick phlegm and mucus in the tube. If the suction catheter is not smooth, replace it. To avoid cross infection, it is recommended to adopt one-time suction catheter.
- The liquid storage bottle, bottle cap and various tubes should be soaked in 500mg/L chlorine-containing or bromine-containing disinfectant on a clean basis. After 30 minutes, rinse with clean water, and put it on reserve use after being dry.

⃠ The liquid storage bottle is made of plastics. Avoid collision with sharp objects when cleaning and using, and avoid falling.

- Use a damp cloth soaked with disinfectant to wipe the outer surface of the machine housing. Liquid should be prevented from seeping into the cracks of the machine housing, and font and pattern should not be wiped.
- When the equipment is not in use, it should be placed in a dry and clean place, and it should be turned on regularly (normally one time every 6 months).

⃠ **Notice:** Before using the phlegm suction unit again, the overflow device and

other tubes must be installed according to the tube connection mode.
Before using the phlegm suction unit again, check the appearance of the insulation of the power cable, the plug of the power cable, the power on/off status by dialing up and down, and fastening condition of electrical components on machine surface to ensure the electrical safety of the machine. In case of any questions, please contact the supplier or manufacturer.

- The warning and precautions listed here are for the correct and safe use of the product so as to prevent any harm or damage to the user or other people.
- The warnings and precautions are as follows:

Legend	Content
ⓘ	ⓘSymbol means compulsory requirements (things that must be complied with). Specific compulsory contents are ⓘ in or near that are shown in words or pictures. Left symbol means "general compulsory".
⃠	⃠ Mark means prohibition (things that can't be done). Specific prohibition contents are ⃠ in or around it and are shown in pictures or words. Left symbol means "general prohibition".

III. Trouble Shooting

No.	Fault	Probable reasons	Solutions	Remarks
1	The negative pressure limit is less than 60kPa.	1) Air leakage of bottle mouth 2) Air leakage at connecting joints 3) Loose or released regulating valve 4) The atmospheric pressure of the use site is inconsistent	1) Clean the dirt on the bottle mouth, close or replace the bottle stopper, gasket or connector 2) Re-tighten each connection joints 3) Tighten the regulating valve 4) Please move the portable phlegm suction unit to the place with the atmospheric pressure specified in the manual.	1) The maintenance of parts in the device should be carried out by professional personnel 2) Replace it when the suction tube ruptures
2	The negative pressure value is greater than 40kPa, but the suction at the tube outlet decreases or disappears obviously.	1) Overflow device shut off. 2) Tube blockage 3) The air filter is blocked.	1) After shutdown, turn the regulating valve loose, counterclockwise to release the negative pressure in tube and tighten it again. 2) Dredge, clean or replace the tube 3) Replace it with air filter produced by us.	1) Timely empty the liquid storage bottle 2) The "inlet" mark end in the air filter is the air inlet
3	Power source normally, indicator does not light	1) Loose socket 2) Fuse tube blown. 3) The indicator light is damaged.	1) Repair or replace socket 2) Replace fuse tube 3) Replace indicator light	2) Fuse Specification F1.6AL250V, Φ5×20
4	Fuse tube blown	1) Over voltage 2) Short circuit of internal line 3) Pump block rolling, electric current increase	1) Regulate voltage 2) Check line and removal fault 3) Check the pump body and motor	Carried out by professional maintenance personnel (refer to the Electrical schematic diagram)

ⓘ **Notice:** If the pump body is faulty, its disassembly and repair need to be operated by professional personnel. If necessary, please contact the manufacturer (please cut off the power supply before checking the circuit or opening the box).

V. Other Precautions

ⓘ User's manual and technical instruction are used together.

I. Transportation and Storage Environmental Restrictions

Ambient temperature: −40℃ ~ +55℃
Relative humidity: 10% ~ 93%, no condensation
Atmospheric pressure: 70kPa ~ 106kPa

ⓘ **Notice:** Portable phlegm suction unit should be stored in non-corrosive gas and well-ventilated room, avoid violent shock during transportation.

II. Electrical Schematic Diagram (refer to Fig.3)

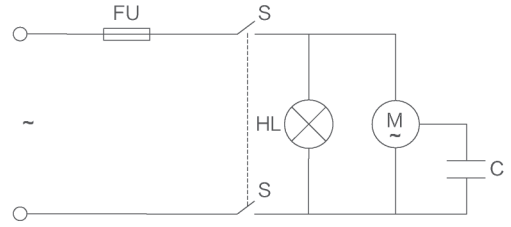


Fig. 3. Electrical schematic diagram

Electrical maintenance should be operated by professionals.

III. After-Sales Service

- In case of quality problems caused by non-human factors within one week from the date of sale, the company is responsible for the return, replacement and repair. In case of quality problems caused by non-human factors within one year since procurement under normal use and maintenance, the whole unit maintenance service is offered. In case of product fault over one year to the expiration of service life, users can go to our company's after-sales service department, office or agency according to the invoice and warranty card. Our company provides parts and components for maintenance with reasonable fees. If the user is unable to provide an invoice, the warranty period shall be confirmed by the company's number or the factory date extended by one month.
- The following conditions are not covered by the warranty: ① Worn and consumable parts: air filter, suction tube, fuse tube; ② Failures caused by unauthorized disassembly, repair, or modification of the product; ③ Failures caused by accidental fall during use and handling; ④Improper use, resulting in water, blood, phlegm or sticky liquid entering suction pump, it can not work properly; ⑤ Damage or deformation of portable phlegm suction unit caused by external force; ⑥ Fault caused by failure to following the correct operating methods
  ⑦ Damage caused by unforeseen natural disasters (such as: fire, earthquake, flood, etc.).
- If users need to purchase parts or fragile and consumable parts of the product, please purchase from the after-sales service department of the company and replace them under the guidance of the professional personnel recognized by the manufacturer. Yuyue Medical is not responsible for the consequences if customers violate operation requirements or buy accessories from individual access.
- If there is a need, you can provide the circuit diagram and information necessary for maintenance. If you have any questions about circuit maintenance, you can contact the manufacturer.

IV. Accessories

1. Suction conductor (length 2m, ϕ7× ϕ11): 1pc
2. Fuse tube: F1.6AL250V, ϕ5×20: 2pcs
3. Air filter: 2pcs
4. Suction catheter 2.67mm (F8): 1pc, 4.0mm (F12): 1pc
5. User's manual, warranty card (conformance certificate): 1pc

1). Replace the air filter

Replacement cycle: If the air filter is inhaled or filled with dust, the color of the filter diaphragm will change from light to dark, and the suction at the inlet of the pipeline will be significantly reduced or even disappear, while the negative pressure on the vacuum gauge will continue to rise to more than 0.04Mpa. And then, the company's air filter should be replaced in time.

Replacement method: Remove the transparent plastic tube at both ends of the air filter, replace it with a new air filter, and reinsert the transparent plastic tube at both ends.

The air filter should be changed frequently and treated as medical waste. Generally speaking, the air filter is replaced every three months.

ⓘ **Notice:** During use, closing the overflow device or tube blockage may also cause suction to decrease or disappear and negative pressure to rise.
Refer to "Trouble shooting".

ⓘ **Notice:** The air filter should be replaced frequently and destroyed centrally.

V. Disposal of Waste and Residue

The waste should be disposed in accordance with the relevant national environmental protection regulations.

VI. Electromagnetic Compatibility Instruction

This product ("portable phlegm suction unit 7E-H1") meets the EMC (Electromagnetic Compatibility) standard required for the safe use of medical electrical equipment and YY0505-2012. EMC standard is a standard for the safe use of medical electrical equipment. The standard stipulates that the interference in other equipment caused by the electromagnetic wave of Equipment, as well as the electromagnetic interference from other devices (mobile phones, etc.) should be controlled within a certain range.

YY0505-2012 specifies the detailed information, which shall be provided to users, related to the EMC environment in which the device operates safely. The following is a technical description of the EMC. (Please refer to YY0505-2012 for details.)

- When the product works in the electromagnetic environment specified in this EMC technical document, the basic performance of the use range is not affected by it.

EMC Identification of EMC (Electromagnetic Compatibility)

EMC Electromagnetic Compatibility) refers to the ability to meet the following two requirements.

1. It will not emit electromagnetic interference that is out of tolerance to other nearby electronic equipment. (Radiation)
2. product can perform its functions normally in an electromagnetic environment where other electronic equipment emits noise and other interference. (Immunity)

- EMC Related technical instructions of EMC (Electromagnetic Compatibility)

Medical electrical equipment needs special reminders about EMC and should be used according to the EMC information described below.

1. This product requires special reminders about electromagnetic compatibility (EMC). Please install and use the product according to the EMC information described in this manual.
2. Portable and wireless radio frequency (radio frequency) communication equipment might affect this product.
3. This product should not be used adjacent to or overlaid with other equipment. If the product has to be adjacent to or overlaid with other equipment, it should be observed to verify its normal operation.
4. The power cable used by this product should meet the type requirements in the table below.

No.	Name	Specification and model	Cable length	Manufacturer
1	Power cable	250V/2.5A	1.25m	Huayin Instrument Electric Co., Ltd. Or Xuexiang Telecommunication Component Co., Ltd.

5. Do not use accessories and cables other than special accessories. Otherwise, it may result in increased radiation and reduced immunity.
6. Basic performance:

Limit value of the negative pressure: Maximum vacuum: (85±5)kPa

Table 1- Guidelines and manufacturer's statement-Electromagnetic Emission

Guidelines and manufacturer's statement-Electromagnetic Emission		
This product is expected to be used in the electromagnetic environment specified below. Purchaser or user should ensure that it is used in this electromagnetic environment.		
Emissions test	Compliance	Electromagnetic environment-guidelines
RF emission GB4824	Group1	The product uses RF energy only for its internal functions. Therefore, its radio frequency emission is very low, and the possibility of causing interference to nearby electronic equipment is very small.
RF emission GB4824	Class A	This product are suitable for use in non-home and home households and all facilities directly connected to the public low-voltage power supply network of households.
Harmonic emissions GB17625.1	Not applicable	
Voltage fluctuation/-flicker emissions GB17625.2	Not applicable	

Table 2- Guidance and manufacturer's declaration-Electromagnetic immunity

Guidance and manufacturer's declaration-Electromagnetic immunity			
This product is expected to be used in the electromagnetic environment specified below. Purchaser or user should ensure that it is used in this electromagnetic environment.			
Immunity test	IEC60601 Test level	Compliance level	Electromagnetic environment-guidance
Electrostatic discharge GB/T 17626.2	± 6kV contact discharge ± 8kV air discharge	± 6kV contact discharge ± 8kV air discharge	The floor should be of wood, ceramic or tile. If the floors are covered with synthetic material, the relative humidity should be at least 30%RH.
Electrical fast transient/burst GB/T 17626.4	± 2kV power cable ± 1kV input/ Output cable	± 2kV to the power cable Not applicable	The network power supply should have the quality used in a typical commercial or hospital environment
Surge GB/T 17626.5	± 1 kV line to line ± 2 kV line to earth	± 1 kV line to line Not applicable	The network power supply should have the quality used in a typical commercial or hospital environment
Power input line Voltage dips, interruptions voltage variations on power supply GB/T 17626.11	<5 % U_T (>95 % dip in U_T) for 0.5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles <5%U_T, (95 % dip in U_T) for 5 sec	<5 % U_T (>95 % dip in U_T) for 0.5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles <5%U_T, (95 % dip in U_T) for 5 sec	The network power supply should have the quality used in a typical commercial or hospital environment. If the user of this product requires continuous operation during power interruption, it is recommended that this product be powered by uninterruptible power supply or battery.
Power frequency magnetic field (50/60 Hz) GB/T 17626.8	3 A/m	3 A/m	The power frequency magnetic field should have characteristics of the power frequency magnetic field used in a typical commercial or hospital environment
Remarks: U_T refers to AC network voltage before the test voltage is applied.			

Table 3- Guidance and manufacturer's declaration-Electromagnetic immunity

Guidance and manufacturer's declaration-Electromagnetic immunity			
This product is expected to be used in the electromagnetic environment specified below. Purchaser or user should ensure that it is used in this electromagnetic environment.			
Immunity test	IEC60601 test level	Compliance level	Electromagnetic environment - guidance
Radio frequency conduction GB/17626.6 RF radiation GB/17626.3	3V(rms) 150kHz ~ 80MHz 3V/m 80MHz ~ 2.5GHz	3V(rms) 3V/m	Portable and mobile radio frequency communication equipment should not be used closer to any part of the product, including cables, than the recommended separation distance. This recommended distance should be calculated by the formula corresponding to the transmitter frequency. The recommended separation distance $d=1.2\sqrt{P}$ $d=1.2\sqrt{P}$ 80 MHz~800 MHz $d=2.3\sqrt{P}$ 800 MHz~2.5GHz Type: P-In watts (W) according to the maximum rated output power of the transmitter provided by the transmitter manufacturer d-Recommended separation distance in meters (m) The field strength of the fixed radio frequency transmitter is determined by the electromag-netic field survey [a], and in each frequency range [b] should be lower than the compliance level. Interference may occur in the vicinity of equipment marked with the following symbol. 
NOTE 1: The formula for the higher frequency is applied at the 80 MHz and 800 MHz. **NOTE 2:** These guidelines may not apply in all situations. Electromagnetic propagation is affected by the absorption and emission of buildings, objects and human bodies.			

[a] Field strengths from fixed transmitters, such as base stations for radio (cellular/-cordless) telephones and land mobile 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 the product is used exceeds the applicable RF compliance level above, the product should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the aspirators.

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

Table 4– Recommended separation distance between portable and mobile radio frequency communication equipment between and the product

Recommended separation distance between portable and mobile radio frequency communication equipment between and the product			
This product is expected to be used in an electromagnetic environment with controlled radiated disturbances. According to the maximum rated output power of the communication equipment, the purchaser or user can prevent electro–magnetic interference by maintaining the minimum distance between the portable and mobile radio frequency communication equipment(transmitter) and this product as recommended below			
The maximum rated output power of the transmitter (W)	Separation distance based on the transmitter frequency (m)		
	150kHz ~ 80MHz $d=1.2\sqrt{P}$	80MHz ~ 800MHz $d=1.2\sqrt{P}$	800MHz ~ 2.5GHz $d=2.3\sqrt{P}$
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 maxi–mum output power rating of the transmitter in watts (W) according to the transmitter manufacturer. NOTE 1: At 80MHz and 800MHz, 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.			

Toxic and hazardous substances or elements and content in the product

Components	Toxic and hazardous substances or elements					
	Lead and its compounds ≤1000PPM	Mercury and its compounds ≤1000PPM	Cadmium and its compounds ≤100PPM	Hexavalent chromium and its compounds ≤1000PPM	Polybromi–nated biphenyls ≤1000PPM	Polybrominated diphenyl ethers ≤1000PPM
Housing	○	○	○	○	○	○
Negative pressure pump	×	○	○	○	○	○
Cable	○	○	○	○	○	○
Negative pressure regulating valve	○	○	○	○	○	○
Air filter	○	○	○	○	○	○
Liquid storage bottle	○	○	○	○	○	○
Vacuum gauge	○	○	○	○	○	○
Suction catheter	○	○	○	○	○	○

This table is made according to SJ/T11364

○: represents that the content of this hazardous substance in all homogeneous materials of this component is within the limits required by GB/ T26572.

×: represents that the content of this hazardous substance in all homogeneous materials of this component exceeds the limits GB/ T26572.

We reserve the right to change the technology and appearance of this product, which are subject to change without notice.