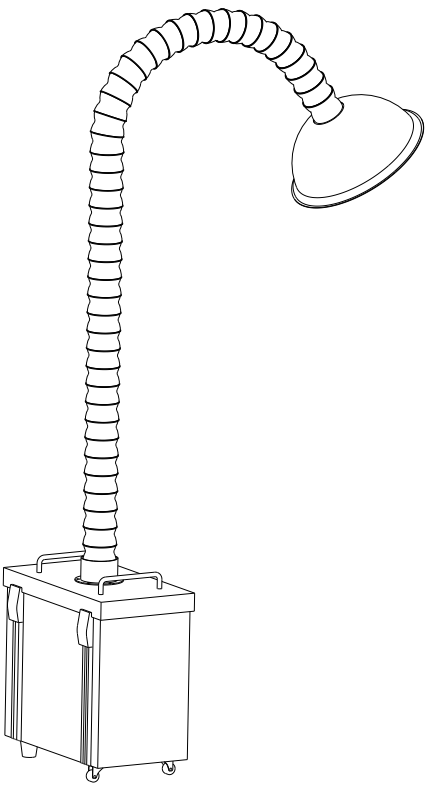
Eighteeth



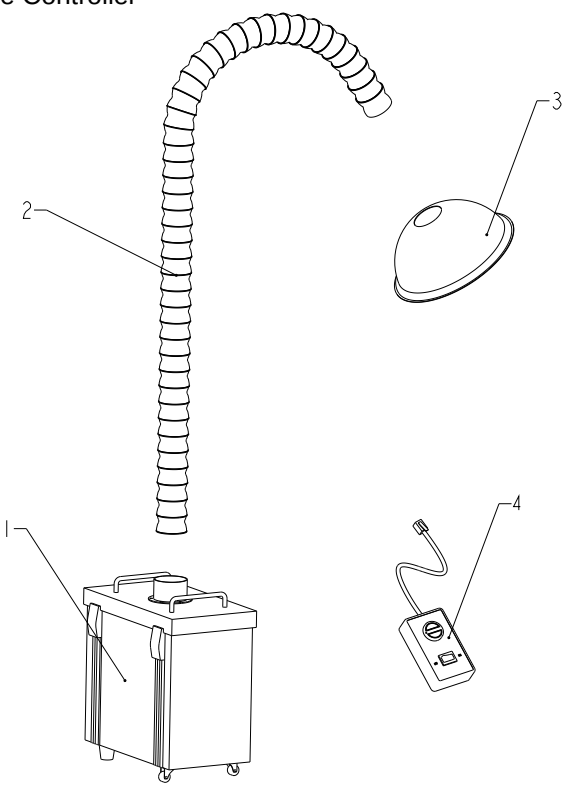
VacStation

USER MANUAL

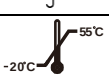
Content

1. Scope of VacStation

1. Vacuum Station
2. Directional Duct
3. Suction Nozzle
4. Volume Controller



2. Symbols

	If the instructions are not followed properly, operation may lead to hazards for the product or the user/patient.
	Additional information, explanation of operation and performance.
	Serial number
	Catalogue number
	Date of manufacture
	Lot of manufacture
	Grounded, Class I equipment
	Type B applied part
~	Alternating current
	WEEE directive marking
	Keep dry
	Temperature limitation
	Humidity limitation
	Atmospheric pressure limitation
	Manufacturer’s LOGO
	Refer to manual

3. Introduction

3.1 Scope of application

VacStation is used to provide positive or negative pressure source for dental treatment equipment to drive instruments and inhale.

3.2 Safety instructions

1. Please read this manual before use.

2. The VacStation must be placed upright when being used. Laying on the side or upside down is prohibited, because these will cause damage to the machine or shorten its service life.

3. When replacing the filter, pay attention to whether the rubber frame is flat, otherwise air leakage will occur and the suction power will be reduced.

4. When using the buckle button, make sure to press the top cover part firmly, and then fix the buckle button, otherwise the buckle button will be damaged.

5. The main filter is heavy, so be careful when replacing it. VacStation is heavy, so be careful when moving it.

6. When replacing the primary effect filter, it should be noted that the dense side faces the filter, and the sparse side faces the air inlet.

WARNING

1. The device must not be placed in humid surroundings or

anywhere where it can come into contact with any type of liquids.

2. Do not expose the device to direct or indirect heat sources. The device must be operated and stored in a safe environment.

3. The device requires special precautions with regard to electromagnetic compatibility (EMC) and must be installed and operated in strict compliance with the EMC information. In particular, do not use the device in the vicinity of fluorescent lamps, radio transmitters, remote controls and do not use this system near the active HF Surgical Equipment in the hospital. Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the VacStation, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result. Do not operate or store at high temperatures. Comply with the specified operating and storage conditions.

4. If irregularities occur in the device during treatment, switch it off. contact the agency.

5. Never open or repair the device yourself, otherwise, void the warranty.

4. Operating instructions

WARNING

Do not block the air inlet artificially to avoid damage to the motor. After the filter is blocked, please replace the filter immediately to avoid damage to the motor.

NOTE

Before first use, be sure to remove the foam placed under the main filter. When using the buckle button, be sure to press the top cover part firmly, and then fix the buckle button, otherwise the buckle button will be damaged. Fix the directional air duct, adjust the direction of the directional air duct according to different occasions, connect the power supply, turn on the power switch (without inserting an external keyboard to adjust the air volume), the value displayed at this time is the air volume gear at the last shutdown. When starting up, the display shows two-digit value, indicating the air volume range: 01-10, if there is no operation within 3 minutes (including the key box and the machine ▲ or ▼ key), the cumulative flow value is displayed, and the flow value is a three-digit value (flow The value is that when the fan rotates 5.76 million revolutions, the cumulative value is 001, which is accumulated in multiples of 5.76 million revolutions.)

4.1 Air volume setting

A total of 01 ~ 10 ten-speed air volume can be set. Click the ▲ or ▼ key to set the air volume. When 01 is displayed, the air volume is the smallest; when 10 is displayed, the air volume is the largest.

4.2 Connect volume controller for air volume adjustment

When the volume controller for air volume regulation is connected, the ▲ or ▼ key on the machine fails, and the air volume can only be adjusted by the knob on the controller. When the air volume is large, the suction capacity of the machine is strong. It is recommended to work under the condition of large air volume.

4.3 Power off

Turn off the power key on the external keyboard, and the window will display "off" before turning off.

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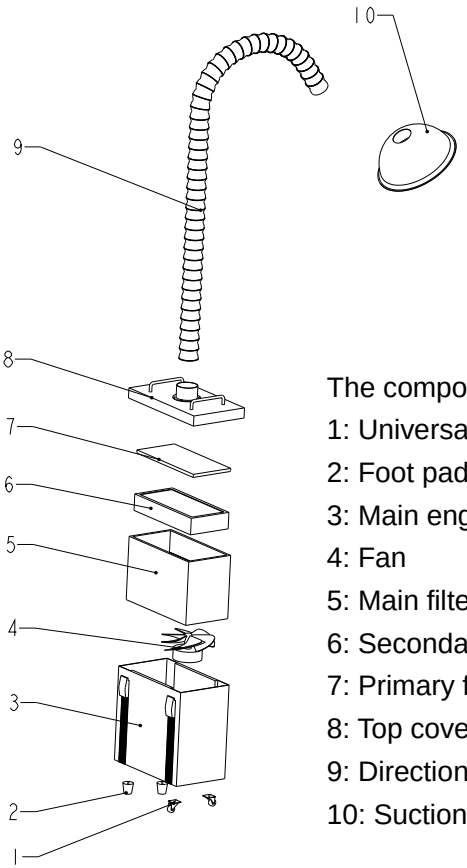
5. Maintenance



The components in the figure are:

1: Universal wheel
2: Foot pad
3: Main engine housing
4: Fan
5: Main filter assembly
6: Secondary filter assembly
7: Primary filter cotton
8: Top cover
9: Directional duct
10: Suction nozzle

5.1 Cleaning and disinfection

5.1.1 Forward

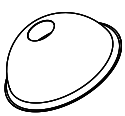
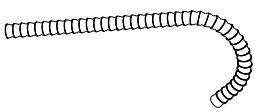
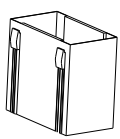
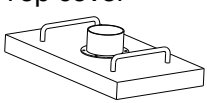
For hygiene and sanitary safety purpose, the components (suction nozzle) must be cleaned and disinfected before each usage to prevent any contamination. This concerns the first use as well use the subsequent uses. The components (directional duct, top cover and main engine housing) should be cleaned and disinfected regularly according to the usage. Comply with your national guidelines, standards and requirements for cleaning, disinfection and sterilization.

Reprocessing procedures have only limited implications to this dental instrument. The limitation of the numbers of reprocessing procedures is therefore determined by the function / wear of the device. From the processing side there is no maximum number of allowable reprocessing. The device should no longer be reused in case of signs of material degradation. In case of damage, the device should be reprocessed before sending back to the manufacturer for repair.

5.1.2 General recommendations

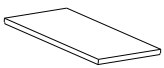
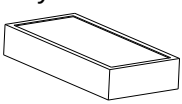
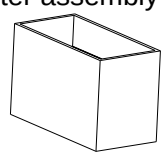
- The user is responsible for the sterility of the product for the first cycle and each further usage as well as for the usage of damaged or dirty instruments, where applicable after sterility.
- For your own safety, please wear personal protective equipment (gloves, safety glasses, etc.).

- Use only a disinfecting solution which is approved for its efficacy (VAH/DGHM-listing, CE marking, and FDA approval) and in accordance with the DFU of the disinfecting solution manufacturer.
- The water quality has to be convenient to the local regulations especially for the last rinsing step or with a washer-disinfector.
- Do not use bleach or chloride disinfectant materials.

<table>
<tr><td colspan="3">Disinfection components</td></tr>
<tr><td>Suction nozzle
  </td><td>Directional duct
  </td><td>Main filter assembly
  </td></tr>
<tr><td>Top cover
  </td><td></td><td></td></tr>
<tr><td colspan="3">Wipe all the surfaces with a cloth lightly moistened with Ethanol for Disinfection (Ethanol 70 to 80 vol%) at least 2min, repeat for 5 times.</td></tr>
<tr><td colspan="3">NOTE
Do not use anything except Ethanol for Disinfection (Ethanol 70 to 80 vol%).
Do not use too much ethanol as it’s going into machine and damage the components inside.</td></tr>
</table>

5.2 Filter replacement

5.2.1 The frequency of filter replacement

Components	Frequency
Primary filter cotton 	Every 40H
Secondary filter assembly 	1~3 Month
Main filter assembly 	6~12 Month
NOTE When the LED window displays "□" circularly, the filter must be replaced.	

5.2.2 How to replace filters

Release the four buckle buttons on the edge of the upper cover of the machine, and pick up the top cover part, primary filter cotton,

secondary filter assembly and main filter successively. Replace the main filter wieh a new one. Make sure the new main filter is placed correctly and the fan outlet connected to the bottom of the filter is conductive.

NOTE

When replacing filter, turn off the power switch first.

6. Trouble shooting

When a problem or malfunction occurs, please check the machine with the table below before contacting the dealer to quickly eliminate common problems or malfunctions. If the problem or malfunction is not solved, please contact the dealer.

Problem or malfunction	Reasons	Solutions
The window flashes "OFF" and clockwise "□" alternately, alarms, the fan stops working.	The air inlet is completely blocked	Turn off the power, check whether the direction air duct and suction nozzle are blocked by foreign matters, and if so, clean them up. If the problem is not solved, open the upper cover and check whether there is foreign matter blocking the air inlet inside the machine, and if so, clean them up. After these steps, restart the machine and observe after one

		minute whether it still alarms, if so, replace the filter
LED window displays "ERR", alarms, the fan and motor stop working.	The fan or line control part is abnormal	Turn off the power and restart the machine to check whether it is working properly, and if not, check the fan.

7. Technical Data

Manufacturer	Changzhou Sifary Medical Technology Co.,Ltd
Model	VacStation
Dimensions	70cm x 34 cm x 65 cm±1 cm(Package)
Duct	Φ75mm×1500 mm
Weight	14.2kg±10%
Input	220V AC
Power	250W Max
Filter efficiency（0.3um）	99.97%
Static pressure	3000Pa
Speed	28m/s Max
Volume(Filter included)	200m^3/h

8. EMC Tables

<table>
<tr><td colspan="3">Guidance and manufacturer’s declaration – electromagnetic emissions</td></tr>
<tr><td colspan="3">The VacStation is intended for use in the electromagnetic environment specified below. The customer or the user of the VacStation should assure that it is used in such an environment.</td></tr>
<tr><td>Emissions test</td><td>Compliance</td><td>Electromagnetic environment - guidance</td></tr>
<tr><td>RF emissions CISPR 11</td><td>Group 1</td><td>The VacStation 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.</td></tr>
<tr><td>RF emissions CISPR 11</td><td>Class B</td><td rowspan="3">The VacStation is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.</td></tr>
<tr><td>Harmonic emissions
IEC61000-3-2</td><td>Class A</td></tr>
<tr><td>Voltage fluctuations/flicker emissions
IEC 61000-3-3</td><td>Complies</td></tr>
</table>

Guidance and manufacturer's declaration – electromagnetic immunity			
The **VacStation** is intended for use in the electromagnetic environment specified below. The customer or the user of the **VacStation** 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	+/- 8 kV contact +/- 2 kV, +/- 4 kV, +/- 8 kV, +/- 15 kV air	+/- 8 kV contact +/- 2 kV, +/- 4 kV, +/- 8 kV, +/- 15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transients/bursts IEC 61000-4-4	±2kV 100kHz repetition frequency	±2kV 100kHz repetition frequency	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	Line to line: ±0.5kV, ±1kV Line to earth: ±0.5kV, ±1kV, ±2kV	Line to line: ±0.5kV, ±1kV Line to earth: ±0.5kV, ±1kV, ±2kV	Mains power quality should be that of a typical commercial or hospital environment.

Voltage dips IEC 61000-4-11 Voltage interruptions IEC 61000-4-11	0% UT; 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315° 0% UT; 1 cycle and 70% UT; 25/30 cycles sine phase at 0° 0% UT; 250/300 cycle	0% UT; 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315° 0% UT; 1 cycle and 70% UT; 25/30 cycles sine phase at 0° 0% UT; 250/300 cycle	Mains power quality should be that of a typical commercial or hospital environment. If the user of devices require continued operation during power mains interruptions, it is recommended that devices be powered form an uninterruptible power supply or a battery
Rated Power frequency magnetic field IEC 61000-4-8	30 A/m 50Hz or 60Hz	30 A/m 50Hz or 60Hz	Power frequency magnetic field should be at levels characteristic of a typical location in a typical commercial or hospital environment.
Note: UT: rated voltage(s); E.g. 25/30 cycles means 25 cycles at 50Hz or 30 cycles at 60Hz			

Guidance and manufacturer's declaration – electromagnetic immunity			
The **VacStation** is intended for use in the electromagnetic environment specified below. The customer or the user of the **VacStation** should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment - guidance**
Conducted dis-turbances induced by RF fields IEC 61000-4-6	3 V 0.15 MHz – 80 MHz, 6 V in ISM bands be-tween 0.15 MHz and 80 MHz, 80 % AM at 1 kHz	3 V	Portable and mobile RF communications equipment should be used no closer to any part of the **VacStation**, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.
Radiated RF EM fields IEC 61000-4-3	3 V/m, 80 MHz – 2,7 GHz, 80 % AM at 1 kHz	3V/m	

Proximity fields from RF wireless communication equipment IEC 61000-4-3	See the RF wireless communication equipment table in "Recommended minimum separation distances"	Complies	**Recommended minimum separation distances** See the RF wireless communication equipment table in "Recommended minimum separation distances"

Recommended minimum separation distances

Nowadays, many RF wireless equipments have being used in various healthcare locations where medical equipment and/or systems are used. When they are used in close proximity to medical equipment and/or systems, the medical equipment and/or systems' basic safety and essential performance may be affected. The **VacStation** has been tested with the immunity test level in the below table and meet the related requirements of IEC 60601-1-2:2014. The customer and/or user should help keep a minimum distance between RF wireless communications equipments and the **VacStation** as recommended below.

Test frequency (MHz)	Band (MHz)	Service	Modulation	Maximum power (W)	Distance (m)	Immunity test level (V/m)
385	380-390	TETRA 400	Pulse modulation 18Hz	1.8	0.3	27
450	430-470	GMRS 460 FRS 460	FM ± 5 kHz deviation 1 kHz sine	2	0.3	28
710	704-787	LTE Band 13, 17	Pulse modulation 217Hz	0.2	0.3	9
745						
780						
810	800-960	GSM 800/900,	Pulse modulation	2	0.3	28
870						

930		**TETRA 800, iDEN 820, CDMA 850, LTE Band 5**	**18Hz**			
1720	**1700-1990**	**GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1,3,4,25; UMTS**	**Pulse modulation 217Hz**	**2**	**0.3**	**28**
1845						
1970						
2450	**2400-2570**	**Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7**	**Pulse modulation 217Hz**	**2**	**0.3**	**28**
5240	**5100-5800**	**WLAN 802.11 a/n**	**Pulse modulation 217Hz**	**0.2**	**0.3**	**9**
5500						
5785						

WARNING

1. Use of accessories and cables other than those specified or provided by the manufacturer of **VacStation** could result in increased electromagnetic emissions or decreased electromagnetic immunity of **VacStation** and result in improper operation.

   Cable information:

Cable Name	Cable Length（m）	Shielded or not	Remark
Adapter	1.8	No	/

2. Use of **VacStation** adjacent to or stacked with other equipment should be avoided because it could result in improper operation.

If such use is necessary, **VacStation** and the other equipment should be observed to verify that they are operating normally.

9. Statement

Service Life

The service life of VacStation series products is 12 months.

Maintenance

MANUFACTURE will provide circuit diagrams, component part lists, descriptions, calibration instructions to assist to SERVICE PERSONNEL in parts repair.

Disposal

The package should be recycled. Metal parts of the device are disposed as scrap metal. Synthetic materials, electrical components, and printed circuit boards are disposed as electrical scrap. Please deal with them according to the local environmental protection laws and regulation.

Rights

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