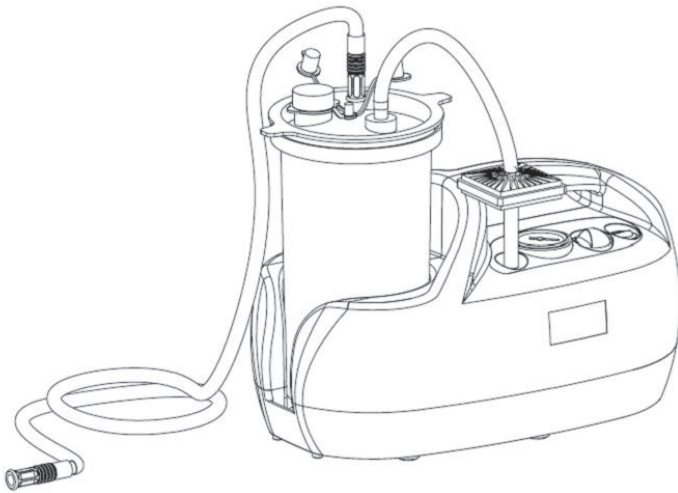


# ***VAC Pump***

## ***Portable Suction Unit***


### ***Instruction Manual***




Model No.: VacPro  
VacMaxi  
VacPlus



## Symbols

 Off, disconnection from the mains.

 On, connection to the mains.



Manufacturer.



Authorised representative in the European community.



CE mark and notified body registration number, Annex II article 3 of EC directive 93/42/EEC has been met.



Attention, should read the instructions.

**IP21** 

Protected against solid foreign objects of 12,5 mm and greater;  
Protection against vertically falling water drops



BF symbol, which indicates that this product complies with degree of protection against electric shock for type BF equipment.



Refer to instruction manual



Class II



Disposal of Electrical & Electronic Equipment (WEEE):

This product should be handed over to a suitable collection point for the recycling of electrical and electronic equipment. For more detailed information about the recycling of this product, please contact your local city council, household waste disposal service or the retail store where you purchased this product.

# **KEEP THESE INSTRUCTIONS READ ALL INSTRUCTIONS BEFORE USE**

## **1. IMPORTANT SAFEGUARDS**



**DANGER- To reduce the risk of electrocution:**

- Always unplug this product immediately after using.
- Do not use while bathing, showering, washing dishes or close to water source of any kind.
- 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.



**WARNING- To reduce the risk of burns, electrocution, fire or injury to people:**

- This product should never be left unattended when plugged in.
- Close supervision is necessary when this product is used for, with or near children or infants.
- Use the product only for its intended use as described in this manual. Use this product only under doctor's direction. Do not use any attachment not recommended by the manufacturer.
- Never operate this product if a) it has a damaged cord or plug, b) it is not working properly, c) it has been dropped or damaged, d) it has been dropped into water. Return the product to a specified service centre for examination and repair.
- Keep the cord away from heated surfaces.
- Never block the air openings of this product or allow objects to fall or be inserted into the air vent openings or place it on a soft surface such as a bed or couch.
- Never use while sleeping or feeling drowsy.
- Do not use outdoors or operate where aerosol (spray) products are being used or where oxygen is being administered in a closed environment such as an oxygen reservoir.

## NOTE, CAUTION, WARNING & DANGER STATEMENT



**NOTE** - Indicates information that user should pay special attention to.



**CAUTION** - Indicates correct operating or maintenance procedures in order to prevent damage to or destruction of the equipment or other property.



**WARNING** - Calls attention to a potential danger that requires correct procedures or practices in order to prevent personal injury



**DANGER** - Urgent safety information for hazards that will cause serious injury or death.

## 2. INTRODUCTION

### Intended User:

Legally certified medical experts, such as doctor, nurse and therapist, or healthcare personnel, or patient under guidance of qualified medical expert.

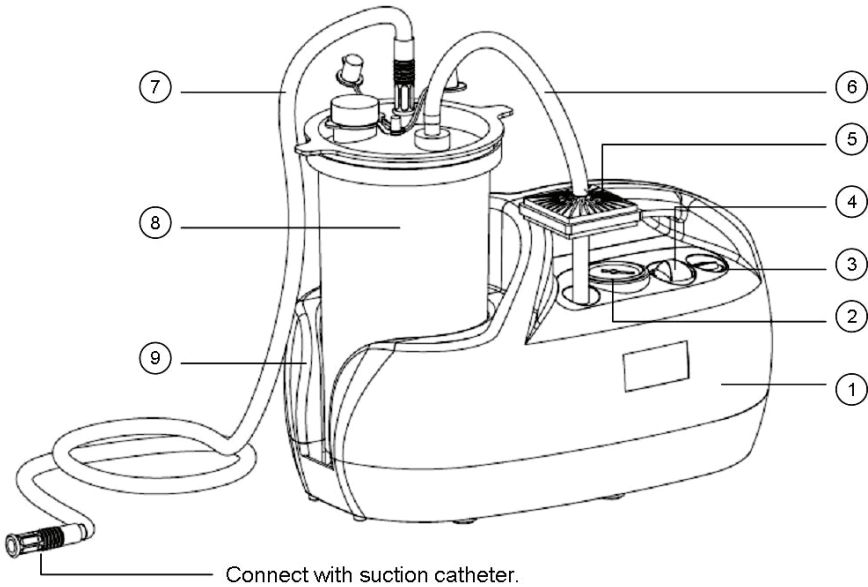


**NOTE-** Except the usages mentioned above, please do not use this product for any other purpose. This device can be used with adults, children or infants under the supervision of a medical professional.

### Safety Precautions Instruction:

When using this electrical product, especially when children are present, one should always follow basic safety precautions. Do not install, maintain or operate this equipment without reading, understanding and following the proper instruction manual, or injury or damage may result.

### 3. PRODUCT DESCRIPTION



- |   |                         |   |                   |
|---|-------------------------|---|-------------------|
| 1 | Body                    | 6 | Connection Tube   |
| 2 | Pressure Gauge          | 7 | Patient Tubing    |
| 3 | Power Switch            | 8 | Canister with Lid |
| 4 | Pressure Regulator Knob | 9 | Canister Holder   |
| 5 | Hydrophobic Filter      |   |                   |


## Accessories


User has to be informed to use CE mark devices only, or devices which are in compliance with MDD requirements. The standard suction pump package consists of one main unit with an instruction manual. There are many optional different types of connection tubing, hydrophobic filter, patient tubing, canister, and suction catheter that can be used with this suction pump.


Please contact our distributor and authorized service representative for recommendations on which of these accessories will best fit your need.

Item	Part No.	Specification	Single patient reusable
Disposable Canister	CS99020833	Ø171*272.8(H) mm/1800ml	Yes
	BR99020212	Ø150*185(H) mm/800ml	Yes
AC to DC Adaptor/Charger (For VacPlus)	CS99036503	Input: 100-240Vac, 50/60Hz, 1.62-0.72A	N/A
	CS99036603	Output: 12Vdc, 5.25A	
Rechargeable Battery (For VacPlus)	CS99037003	Lead Acid Battery, 12Vdc, 2.8Ah	N/A
Connection Tube	CS99010923	7.0(ID) x 13.0(OD) x 60(L) mm	Yes
	CS99010723	7.0(ID) x 13.0(OD) x 250(L) mm	
Patient Tubing	CS99010111	7.0(ID) x 10.4(OD) x 1800(L) mm	Yes
Hydrophobic Filter	BR99030301	1/4 inch. Hose Barb Efficiency 99.97% D.O.P. retention	N/A

## 4. OPERATION

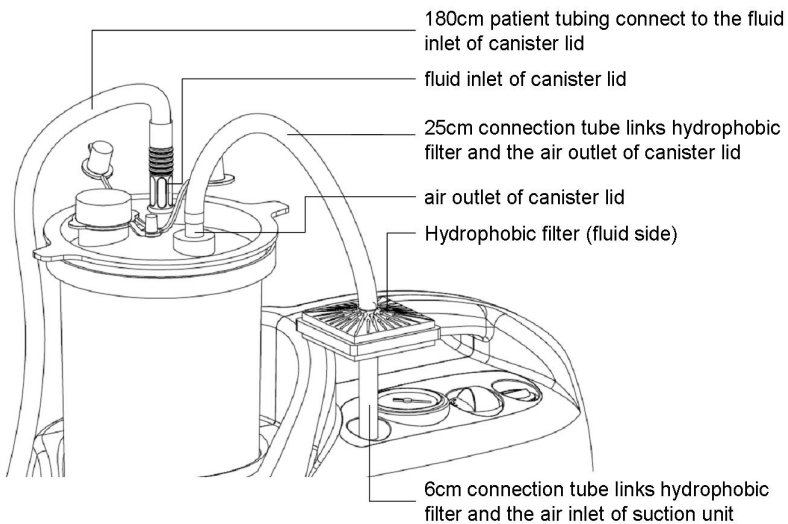
 **CAUTION-** The suction procedure should be supervised by a medical professional.

 **CAUTION-** Prior to plugging in the unit, make sure the power switch is at the “O” (OFF) position.

 **CAUTION -** The suction pump is designed for intermittent use only. Do not operate it continuously for more than 30 minutes for a single use without turning it off and following with a cooling period for at least 30 minutes.

## 4.1 Setup Before Use

1. Before each use, inspect the suction pump and the accessories for damage or wear; replace as necessary.
2. Place the suction pump on a flat, stable surface.
3. Keep both the power switch and the pressure regulator knob within reachable distance of the person operating it.
4. Seal the canister properly with lid and then put the sealed canister into the canister holder.
5. Make sure the power switch is at the “O” (OFF) position; turn the suction pressure to the minimum level, and plug the power cord into an appropriate electrical outlet.
6. Connect 6cm connection tube to the air inlet of the suction unit, then to the hydrophobic filter; and also connect 25cm connection tube to the fluid side of the hydrophobic filter, then to the air outlet of the canister lid.
7. Connect 180cm patient tubing to the fluid inlet of the canister lid.
8. Press the power switch to the “I” (ON) position and adjust the suction pressure to the correct level to start the suction procedure.





## 4.2 To Start Suctioning

1. Expert opinion suggestions for suction pressure:

### *Endotracheal/Tracheostomy Suction Pressure*

Adult	100-120 mmHg
Child	80-100 mmHg
Infant	60-80 mmHg

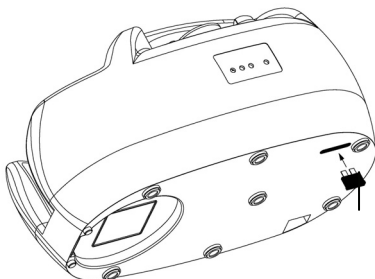
### *Nasotracheal Suction Pressure*

Adult	100-150 mmHg
Child	100-120 mmHg
Infant	80-100 mmHg

2. Suction time should be 15 seconds, and the interval between repeated suctionings should be more than 2 minutes.
3. If the suction procedure needs to be interrupted, turn the suction pressure to the minimum level and press power switch to the "O" (OFF) position.
4. When the treatment is completed, press the power switch to the "O" (OFF) position and unplug the power cord from the electrical outlet.
5. Clean the suction pump and dispose of the sucked-out waste, and suction accessories properly.

## 4.3 To Activate the VacPlus Electrical System


1. Before using the VacPlus (AC/DC type suction unit) for the first time, insert the safety jack into the slot at the bottom of the device to turn on the electrical system.




Insert the safety jack into the slot.

## 2. Power Source Options:

- AC Operation: Plug the power connector of the AC to DC adaptor/charger into the suction unit, and plug the line cord of the AC to DC adaptor/charger into a grounded AC supply.
- Battery Operation: The suction unit is equipped with a high-capacity, embedded rechargeable battery. For initial charge in a new unit, fully charge the battery for a minimum of 5 hours (please see battery charging).

 **NOTE-** To operate unit from the rechargeable battery, ensure that no external power sources are plugged into the suction unit. During charging or operating, the power supply may become warm to the touch; this is normal.

 **WARNING -** If you get the Low Battery Warning symbol, immediately switch to an external power source to prevent an interrupted suction procedure. If the unit does not receive external power or the battery does not get recharged immediately, the low battery indicator light will remain on and the performance of the unit will drop off rapidly and it will then shut down.

## 3. Operation Status Indicators:



External power on: This GREEN light illuminates when the suction unit is powered on using an AC to DC adapter/charger or other external power source.



Battery charging: This BLUE light flashes when battery is charging. The light will go out when the battery is fully charged.



Low battery state: This YELLOW light illuminates when the battery power is low and needs recharging.



High battery state: This GREEN light illuminates when the battery has adequate power.

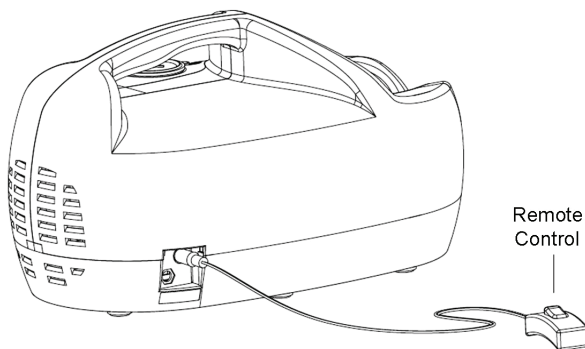
#### 4.4 Battery Charging(For VacPlus):

- Before using the VacPlus embedded battery for the first time, charge the battery for 5 hours to make sure it is fully charged.
- If the low battery state YELLOW light illuminates, do not operate the unit for more than a few minutes, as completely discharging the battery will shorten the battery life. Recharge the battery as soon as possible.
- Connect the unit to an AC power source.
- The BLUE charging light will keep flashing while the battery is charging.
- As the battery nears a full charge, the BLUE charging light will go out, while the high battery state GREEN light will illuminate.
- Battery replacement procedures must be performed by qualified service personnel.

**⚠ NOTE-** Recharging the battery to full capacity may take up to 5 hours depending on the degree of discharge. If the unit is not in use for extended periods, the battery should be recharged every month. A fully-charged battery will provide approximately 40-60 minutes of continuous operation at maximum vacuum level (600 mmHg). Unit can be left charging when not in use.


#### 4.5 To activate VacPlus by remote control


1. In addition to the ON/OFF switch of the device, VacPlus can be also activated with the remote control.
2. Plug the remote control connector to the device.




3. The remote control is working only if the power switch of the device is at "O" (OFF) position.

## 5. CLEANING

 **WARNING-** Electric shock hazard. Do not remove outer case of this unit. All dismantling and maintenance of this unit must be done by a qualified service technician. Refer servicing to qualified service personnel.

 **WARNING-** This unit does not require oil. Do not attempt to lubricate any internal parts.

 **WARNING-** Unplug unit before cleaning. Do not submerge in water for cleaning.

- 5.1 Wipe the main unit with a damp cloth every few days to keep it dust-free.
- 5.2 Do not use any powdered detergents or soap. Do not submerge the unit into water.

## 6. STORAGE

Keep the suction pump and all accessories dry; avoid direct sunlight.

## 7. MAINTENANCE


- 7.1 To reduce the risk of electric shock, do not disassemble the unit.
- 7.2 All repair services and maintenance procedures must be performed by qualified service personnel.

## 8. TROUBLE SHOOTING

If your suction pump fails to function, consult the trouble shooting guide below. If the problem persists, consult your equipment provider.

Problem	Cause and Solution
Device Doesn't Work.	<ul style="list-style-type: none"><li>➤ Check if the power cord plug is properly fitted into an appropriate electrical outlet.</li><li>➤ Check if the power switch is turned to the "I" (ON) position.</li><li>➤ When device has been running continuously for over 30 minutes right before using, an auto shut down may be activated by built-in thermal protector. In this case, cool down device for 30 minutes before next usage.</li><li>➤ Check if the hydrophobic filter is broken or saturated, and replace with a new one.</li></ul>
Weak Suction Power.	<ul style="list-style-type: none"><li>➤ Check for correct electrical voltage.</li><li>➤ Check tubing for blockage, damage, or air leakage at connection to hydrophobic filter, canister, or main device; if any, replace as necessary.</li><li>➤ Check tubing and hydrophobic filter for improper assembly; if any, correct it as necessary.</li><li>➤ Check if the hydrophobic filter is broken or saturated, and replace with a new one.</li></ul>

## 9. TECHNICAL SPECIFICATIONS

Item		Specification		
Pump Model		VacPro	VacMaxi	VacPlus
Pump Type		Piston pump with single cylinder		
Power Consumption		90W	100W	40W
Electrical Ratings		230 VAC, 50 Hz		<ul style="list-style-type: none"> <li>● Adaptor input 100-240 VAC, 50/60 Hz; output 12VDC;</li> <li>● Rechargeable Battery 12VDC, 2.8A</li> </ul>
Maximum Pressure		600 mmHg (adjustable)		
Maximum Flow Rate		24 LPM	46 LPM	24 LPM
Canister		800 ml or 1800 ml		
Dimensions (W x D x H)		352 x 206 x 192 mm		
Net Weight		2.8 kg	4.4 kg	3.3 kg
Environmental	Temperature	Operating: +10°C to +40°C (+50°F to +104°F) Storage: -15°C to 50°C (+5°F to +122°F) Shipping: -15°C to 70°C (+5°F to +158°F)		
	Humidity	Operating: 10%RH to 90%RH non-condensing Storage: 10%RH to 90%RH non-condensing Shipping: 10%RH to 90%RH non-condensing		
	Atmospheric	Operating: 700~1013 hpa Storage: 700~1013 hpa Shipping: 700~1013 hpa		
Classification		Class II, Type BF,  (classification according to EN 60601-1)		
Applied Part		According to EN ISO 10079-1 & EN 60601-1 & EN 60601-1-11 The applied part is: BF type/suction catheter		



**WARNING-** For safety and to avoid causing damage to the appliance, always make sure the electrical rating between outlet and suction pump matches.





130 HERALD STREET CHELTENHAM VIC 3192 AUSTRALIA  
phone (03) 9555 1744 | fax (03) 9553 0597 | [www.supagas.com.au](http://www.supagas.com.au)