

OPERATING INSTRUCTIONS

MiniVac Gas Evacuation / Scavenging Pump for Volatile Anesthesia

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Not For Human Use!!

Content

1. Introduction and Manufacturer's Details	3
1.1 Copyright	3
2. Safety Notes	3
3. General Description and Application	4
4. Deliverables	4
5. Technical Description	5
5.1 Front Panel	5
5.2 Right Side Panel	6
5.3 Top Panel	7
6. How to Use the MiniVac	8
7. Cleaning of the MiniVac.....	10
8. Maintenance and Servicing	10
9. Faults, Causes and Remedies	10
10. Technical Data / CE conformity	11
10. Reply Form	12

1. Introduction and Manufacturer's Details

These Operating Instructions describe the function and use of the MiniVac Gas Evacuation / Scavenging Pump for Volatile Anesthesia, such as Isoflurane and Sevoflurane.

All of the information in these instructions has been drawn up after careful examination but does not represent warranty of product properties. Alterations in line with technical progress are reserved.

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1.1 Copyright

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2. Safety notes

- Warning- Use Caution when working with aerosols, anesthesia gases and gas mixtures. DANGER!
 - The MiniVac is designed for use in general laboratories, light industrial and office environments
 - Always turn the MiniVac on before you start your anesthesia vaporizer
 - The MiniVac is not intended for use on human applications!

Not For Human Use!!

3. General Description and Application

The MiniVac scavenging pump is an easy to use gas evacuation system. It applies a suction flow to veterinary anesthesia delivery devices such as masks, induction boxes etc., in order to protect the personnel in the laboratory from potential harmful volatile anesthesia like Isoflurane or Sevoflurane.

4. Deliverables

The delivery consists of:

- MiniVac unit
- Power supply with country specific power cord
- Operating instruction



5. Technical Description

The MiniVac chassis is made of aluminium. All connections for power supply, tubing and output are located on the top and right side panels of the box.

The ON/OFF switch and the dialling knob for the pump speed/suction flow are located on the front panel. The gas flow is pulled through the top port of the unit and pushed out of the exhaust port located on the right side of the unit.

5.1 Front Panel



On the left side of the front panel is the ON/OFF switch. When the unit is on, the green light located on the switch itself will be lit.

On the right side of the front panel is the dialling knob for adjusting the speed of the suction to the airflow that the MiniVac is applying. Please note, the numbers on the knob are only relative numbers to be used for reference, there is no direct correlation to the volume or speed of the airflow. The black hinge on the top right of the knob is to tighten the knob setting by moving clockwise. To release move counter clockwise.

5.2 Right Side Panel



On the right side panel, is the power input for the power supply, the connector for the ground cable as well as the exhaust/out port.

On the exhaust port you can use a 22 mm inner diameter tubing to connect directly to the main exhaust of the building (e.g. into a hood), or to a charcoal canister like the Fluosorber or F/AIR canister which allows you to scavenge the volatile anesthesia.

You can leave this port open to room air when you use a charcoal canister like the Fluosorber or F/AIR canisters on the inlet port (located on top of the unit) of the MiniVac.

The connector size for the ground cable is 4mm. Ground cable is not included (part number 73-3372).

5.3 Top Panel



On the top panel is the port for the inlet airflow. You can connect 22 mm ID tubing directly to this, or use one of our adapters for the Fluosorber or F/AIR canisters.

Alternatively, you can use one of the new HSE adapters to connect several masks and chambers to the inlet port, as well as other devices that fit on 22 mm connectors. Below are examples of different set up options for the inlet port.

6. How to Use the MiniVac

For the initial set up of the MiniVac, connect the power supply to the power input port located on the right side panel of the unit, and connect this to your power outlet using the provided country-specific power cord.

Connect the exhaust port located on the right side panel of the unit according to your desired set up (filter canister, building exhaust, or open to room air).

Connect your anesthesia delivery device to the inlet port located on the top panel of the unit.

Turn the MiniVac on. When the green light is on and you can hear the internal pump working the system is ready to be used.

Once the unit is properly connected, the next step is to set the flow of gas (oxygen, air or N₂O, etc.) to the vaporizer and the desired concentration of your volatile anesthesia on the vaporizer.

The appropriate airflow on the MiniVac can now be set using the speed knob located on the right of the front panel of the unit. Should you find your subjects appear to be under anesthetized you should gradually reduce the speed of the MiniVac. Should you find your subjects appear to be adequately anesthetized but you can smell the volatile anesthesia you should gradually increase the speed of the MiniVac, taking caution to ensure that the subject remains properly anesthetized.

Once the optimal setting for your procedure is determined, you should note the relative setting on the speed knob for your particular set up. Please note, the speed setting cannot be provided definitively, as it depends on the connected tubes, which will vary from set up to set up.

!WARNING! Always check to be sure that you do not smell the volatile anesthesia.

Always turn the MiniVac on before starting the Vaporizer.

Possible configurations: Recommended configurations are those that have the charcoal canister BEFORE the pump on the inlet flow.



MiniVac shown with a F/Air canister and adapter on the inlet port. In this set up, the isoflurane gas mixture is pulled directly through the F/Air canister, where it is scavenged. F/Air canister, adapter and 22mm tubing is not included.



MiniVac shown with a Fluosorber canister and adapter on inlet port.

In this set up, the isoflurane gas mixture is pulled directly through the Fluosorber canister, where it is scavenged. Fluosorber canister, adapter and 22mm tubing are separate items and not included. (make sure this line is up in line with the bottom of the image, I am pretty sure it will be when the deleted words are actually gone)



MiniVac shown with a tube adapter on inlet port and 22 m corrugated plastic tubing on the outlet port, to connect directly to the main exhaust of the building. Tube adapter and 22mm tubing are separate items and not included.

MiniVac shown with 22mm corrugated plastic tubing on the inlet port and 22 mm corrugated plastic tubing on the outlet port, which is connected to a Fluosorber filter canister. Fluosorber filter canister and 22mm tubing are separate items and not included.





MiniVac shown with 22 mm corrugated plastic tubing on the outlet port, which is connected to a F/air filter canister. F/air filter canister and 22mm tubing are separate items and not included.

7. Cleaning the MiniVac

To clean the MiniVac we recommend to use a moist, not completely wet, towel. Take caution on all ports and switches, as these parts should remain dry.

Do not use any corrosive cleaning agent.

8. Maintenance and Servicing

There is no special maintenance or service required.

9. Faults, Causes and Remedies

There is presently nothing reported

10. Technical Data / CE Conformity

Motor power consumption	12V DC, 1.5A
Power supply	115 - 230V wide range power supply 12V / 2A
Suction flow at 0 dial knob setting	~8 l/min
Suction flow at 10 dial knob setting	~30 l/min
Suction port	OD 22mm
Exhaust port	OD 22mm

This system is CE conform according to the following regulations:

2014/35/EU: Low Voltage Directive (LVD)

2014/30/EU: Electromagnetic Compatibility Directive (EMCD)

2011/65/EU: Restriction on the use of certain hazardous substances directive (RoHS)

This product conforms in terms of LVD and EMCD to the following relevant standards and carries therefore the CE marking:

EN61010-1:2010 Safety requirements for electrical equipment for measurement, control and laboratory use, General Requirements.

EN61326-1:2013 Electrical equipment for measurement, control and laboratory use regarding the EMC requirements.

10. Reply Form

Please take a few minutes to inform us of any difficulties in understanding the Operating Instructions or the use of the apparatus. With your feedback, we will continue to improve our products and system documentation in an effort to make them more user-friendly.

Please tell us:

☞ where you have found mistakes

☞ where the arrangement was not clear and what you did not understand

☞ where you would like to see improvements

Many thanks for your kind assistance.

Yours,

HUGO SACHS ELEKTRONIK -
HARVARD APPARATUS GmbH.

Your name _____

Organization _____

Street _____

Town _____

Phone _____

Fax _____

eMail _____

Notes:

Please send this sheet or a copy to:

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