



## RAC-Pro Rodent Anesthesia Circuit - Gas Scavenger

Contents 1-Introduction.....	1 1.1
Overview.....	1 1.2
Safety.....	1 1.3
General Description.....	1 1.4
Product Features.....	1 1.5
Environment requirements for equipment.....	2 1.6
Parameter.....	2 1.7
Products List.....	2 2-
System safety.....	4 2.1
Precautions.....	4 3-
Product Structure.....	5 4-
Operation .....	7 4.1
Preparation.....	7 4.2
Weigh .....	7 4.3
Anesthetic gas recovery .....	7 4.4
Shut down.....	7 5-
Maintenance .....	8 6-
Alarm/Trouble Shooting .....	9 7-
Warranty and maintenance .....	10

### 1-Introduction

#### 1.1 Overview

First of all, sincerely thanks for selecting the RACPro Gas Evacuation Apparatus.

Please read this user manual and all other auxiliary materials carefully before installing and using the product, it will be helpful to work with it better.

If you find the practical situations about the supplied goods do not agree with the contents described in the manual, or have any questions or ideas about our products and service, welcome to contact us. For latest information, please contact us immediately.

#### 1.2 Safety

To avoid doing harm to operators or causing damage to the machine in use, please read “2-System Safety” carefully.

If you have any doubt or suggestion about safety, please contact our company to obtain after-sales service support.

Warning:

### 1.3 General Description

RAC-Pro gas evacuation is an efficient anesthetic agent recovery equipment, designed for keeping a safe work environment. It forms negative pressure in the exit of anesthesia mask, breathing circuit and gas filter canister. Then, anesthetic gas will be absorbed by the gas filter canister on the gas evacuation apparatus.

### 1.4 Product Features

☑ The flow of recovered gas is large to ensure full contact between the anesthetic exhaust gas and activated carbon, and the absorption is more thorough.

☑ Low noise and small volume.

☑ Optional gas filter tank, special high-quality activated carbon is selected, and the saturation amount of absorbing exhaust gas is not less than 200g.

☑ The same recycler can absorb exhaust gas from 1 to 5 pipe pavement covers at the same time.

## 1.5 Environment requirements for equipment

Please prepare equipment operating environment conditions listed as follows to ensure operability and safety in use.

Description

Operation environment

Temperature : 5°C~40°C

Humidity : 15%~95% (non-condensed)

Air pressure : 70 kPa~106kPa

Storage environment

Temperature : -20°C~55°C

Humidity : 15%~95% (non-condensed)

Air pressure : 70kPa~106kPa

Working power

1) 100V-240V,50/60Hz,1.5A

2) 24Vdc,2.2A,52.8w

The fluctuation of the supply voltage shall not exceed 10% of the operating voltage range.

## 1.6 Parameter

Parameter Description

Size 232mm\*200mm\*184mm

Net Weigh (without a gas  
filter canister) 2.9kg

Display screen 2 inch, 128\*64 Resolution

The weight 1~2000g

Flow 8 ~ 60LPM

Noise ≤50dB

## 1.7 Products List

Standard Host 1 Gas recovery

Standard Power adapter 1 Power supply for control box and host

Standard Power cord 1

## 2- System safety

Please read safety instructions carefully. For the sake of safety, please be sure to be aware of the followings:

☑ Correct cable connection

Ensure that all cables are safely and securely connected to the device

☑ Avoid exposure of all electronic cables

Do not touch any electronic devices and circuits inside the device

☑ Please stop the device in case of suspected failure

If there is potential danger in the device or it cannot be operated properly, contact authorized technical personnel.

☑ Correct device connection

Connect device correctly to avoid difficulties in operation due to wrong connection, resulting in disconnection.

### 2.1 Precautions

☑ Personnel operating the gas evacuation apparatus must become thoroughly familiar

with the user manual before using this equipment.

⚠ ELECTRIC SHOCK HAZARD - DO NOT remove any of the machine covers or panels. Refer all servicing to a certified service technician.

⚠ DANGER - Possible explosion hazard if the unit is used in the presence of flammable anesthetics agents.

⚠ Any problems arising from an improperly functioning scavenging system is solely the user's responsibility.

⚠ Power cable or cover damage can result in the connection with energized parts. So check the damage of power cable and cover before use. Do NOT use this device if there is any damage on the power cable or cover.

⚠ All warranties and specifications should be voided if personnel open the control unit unauthorized automatically.

### 3- Product Structure



- o1 Port for gas filter canister: for placing a gas filter canister on this apparatus.
- o2 Weight display screen: for displaying the weight of gas filter canister, accuracy: 1g.
- o3 Motor power: motor will start if press this key, and stop if press this key again.
- o4 Weight zero: the value of weight display will return to zero if user press this key.
- o5 Main power: the apparatus will be turned on if press this switch.
- o6 Alarm indicator: indicator will light when gas filter canister reaches 990g, and it will light with alarm sound when gas filter canister reaches 1010g.
- o7 Motor operation indicator: it keeps light when motor is running.
- o8 Speed regulator: for adjusting the suction strength.
- o9 Exhaust port: need maintain patency all the time.
- o10 Power interface: for connecting the power cable to supply power.

## 4- Operation

### 4.1 Preparation

Connect the power supply, check the cover for damage, and confirm exhaust port keep patency.

### 4.2 Weigh

a) The device skips to the main interface automatically after starting up and be in weighing mode by default.

b) Put the gas filter canister onto the port gently, and screen will display the weight of canister.

Note: The weight is not zero when the gas filter canister is not put, user can press the weight "Zero" key for 3s to reset the value.

c) The alarm indicator will light as weight increases up to 990g, indicates that the gas filter canister needs be replaced.

d) The alarm indicator will light with alarm sound as weight increases up to 1010g, reminds the canister must be replaced immediately.

### 4.3 Anesthetic gas recovery

a) Turn on the main power, confirm the weight of gas filter canister is less than 1000g. Remove gas filter canister from the apparatus, connect the canister to anesthetic mask with a tube, and replace the canister back onto the port of gas evacuation apparatus.

b) Press the motor power to start gas recovery. User can adjust the suction strength via a knob at the front of panel. The strength will increase when knob turned clockwise, and decrease with counterclockwise.

### 4.4 Shut down

a) Press the motor power again to stop gas recovery after anesthesia operation is completed.

b) Check the weight of gas filter canister from the display screen.

c) Turn off the main power after use, and make the gas filter canister stay on the gas evacuation apparatus for future use.

Caution: the gas filter canister is consumable, it need to replace when the weight is up to 1000 g.




## 5-Maintenance

- 1) Clean the apparatus surfaces routinely, remove hair, dust, and debris etc.
- 2) Check the weight of gas filter canister, replace it if more than 1000 g.
- 3) Do NOT clogged the exhaust port at the rear panel of gas evacuation apparatus, make sure it maintain patency all the time.
- 4) Do NOT put heavy objects on the apparatus, and avoid any form of physical impact to the apparatus.

NOTE: please provide the serial number of the item before contact with GROPPLER for consulting and maintenance.

## 6-Alarm/Trouble Shooting

The chapter describes problems (faults) and suggested measures that are common in using the product.

Alarm/Trouble	Cause	Solution
The alarm icon appears on the screen, the text flashes, the frequency of the buzzer is 0.5HZ, and the alarm light is on	Level 1 overweight warning, weight $\geq$ $\geq$ 990g detected	Remove the object and observe the weight value displayed until it is less than 990g and the device not alarm.
The alarm icon appears on the screen, the text flashes, the frequency of the buzzer is 2HZ, and the alarm light is on	Level 2 overweight warning, weight $\geq$ 1010g detected	Remove the object and observe the weight value displayed until it is less than 990g and the device not alarm.
Alarm prompt text: Error01; Numeral & alarm icon text flicker; Buzzer chirping frequency: 2HZ; The alarm light is on long;	Motor error	Reduce the motor speed, observe whether the device continues to alarm; Restart the device; Contact 
Alarm prompt text: Error02; Numeral & alarm icon text flicker; Buzzer chirping frequency: 2HZ; The alarm light is on long;	Temperature sensor error	Contact 
Alarm prompt text: Error03 Numeral & alarm icon text flicker; Buzzer chirping frequency: 2HZ; The alarm light is on long;	Weigh sensor error	Contact  <a href="http://www.groppler.de">www.groppler.de</a>

## **7-Warranty and maintenance**

The warranty of this equipment starts from the date of leaving the factory. During the warranty period, the equipment cannot be used normally due to problems such as materials and process defects. GROPLER undertakes after-sales service such as equipment maintenance and parts replacement.

Any damage caused by improper use or over-range use is not covered by the warranty. If repair or replacement of parts is required, the cost will be borne by the user.

If the reworked equipment was found to have been unauthorised disassembly, GROPLER will not provide after-sales service such as warranty, free maintenance and parts replacement.



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