

# GAS ANESTHESIA SYSTEM FOR LABORATORY ANIMALS

*To carry out anesthesia in laboratory animals*

Orchid's gas anesthesia system for rodent is one of the safest, user friendly and the most economical gas anesthesia system in the market. Our system successfully integrates efficient gas delivery at the same time minimizing excess gas exposure to lab personnel.



## Features :

- Compact & Modular
- TEC3 vaporizers with easy fill adaptors, minimizing exposure to anesthetic agents
- Table top or Trolley mounted options available
- Depth of anesthesia can be easily adjusted
- Suitable for different animals, by changing masks or induction chamber
- Suitable for multiple animals using multichannel manifold
- Options of oxygen concentrator or air pump available eliminating need of gas tank

## Anesthesia Vaporizer Module:

Each module comprises of oxygen flow meter, Isoflurane vaporizer, stand, end caps, toggle switch, Easy fill adaptor and quick flush switch for oxygen. Orchid uses easy fill type vaporizers only in the system which ensures protection to the user during filling and emptying the vaporizer. Quick flush switch enables immediate delivery of oxygen either to flush the anesthetic agent in the induction chamber to evacuation unit or to recover the animal in emergency. Toggle switch allows convenient and immediate switch over between induction chamber and mask.



A precise and calibrated flow meter of range from 0.1 to 4.0LPM with large scale for precision and ease of reading is mounted on the Anesthesia module.

### New Tec 3 Vaporizer:

- We offer new Tec3 Easy fill anesthetic vaporizer made from lightweight aluminum.
- It has one piece pump for added strength.
- Calibrated specifically for Isoflurane using a Laser Refractometer.
- Compact wick system for increased drug capacity.
- Safety lock to prevent accidental turn-on of dial.
- When used with the I.P.P.V. the variation in outputs is negligible.
- 250-300ml of drug capacity
- They provide accurate delivery of anesthetic agent in following range: from 0.5%-5% in 0.5% increments.

### Ordering Information:

Product	Product Code	Accessories included/ mounted
Anesthesia Vaporizer Module	AVM-01	Stand, Tec 3 isoflurane vaporizer, oxygen flowmeter, end caps, quick flush switch, vaporizer mounting gaskets, screws, silicon tube, easy fill adaptor.

### Gas Evacuation System:

The scavenging system is designed for the removal of waste gas associated with inhalation anesthesia, safely and actively. It consists of Gas Evacuation Apparatus and Activated Charcoal Canister. The Gas Evacuation System can pull the waste gas through activated charcoal canister so that air can be recirculated into the room.



Product	Product Code	Accessories included
Gas Evacuation Apparatus, 110-240V with 1 pc of Gas filter canister	AVM-01	Gas evacuation unit with main cord, 1pc of filter canister
Optional		
Gas filter canister 830g, large, 1pc	GASF-01	1pc of gas filter canister
Gas filter canister, large, Packet of 6pc	GASF-06	6pcs of gas filter canister

### Induction Chamber:

Induction chamber makes it possible to anesthetize rodents without stress often associated with handling in connection with anesthesia. Induction Chamber is constructed of thick, transparent acrylic with all joints securely cemented. The transparent plastic allows the animal to be under constant observation.



Transparent Induction Chamber

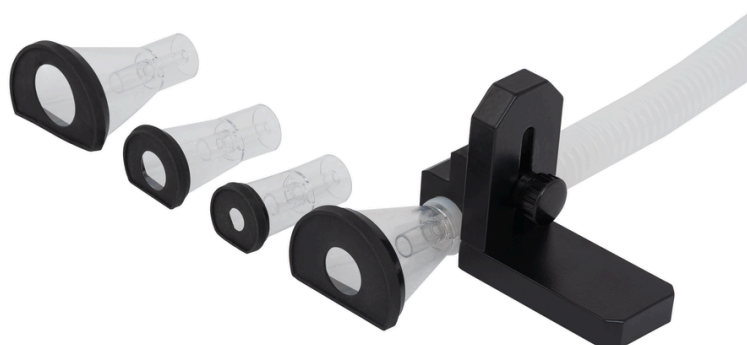


Low Stress Induction Chamber

Model No	Dimension (cm)	Suitable For	Volume (Liter)	Color & Lid locking
S-ANS-M	15 x 10 x 11	Mouse/ Neonatal rat	1.65	Red (Low Stress), sliding
S-ANS-R	23 x 11 x 15	Suitable for rat up to 300g	3.79	Red (Low Stress), sliding
H-ANS-2A	28 x 14 x 17	Suitable for rat up to 500g/ guinea pig up to 350g	6.66	Transparent, hinged
H-ANS-3	40.64 x 20.32 x 20.32	Suitable for Large rat (above 500g)/ Guinea pig (above 350g)	16.78	Transparent, hinged
H-ANS-4	50.8x30.48x38.10	Suitable for Rabbit up to 2000gm	59.00	Transparent, hinged
H-ANS-5	56 x 36 x 30	Suitable for Ferret	60.48	Transparent, hinged

### Nose Cone Mask:

Orchid's nose cone masks are designed with a feature of half spherical design so that the bottom of the mask is flat and can be matched with lowest level when connected with the heating blanket or surgery platform. Mask provides predictable delivery of anesthesia for small laboratory animals. The stream lined flow eliminates any dead space in the mask, avoiding the need for tight fitting face masks.



\* Patent Pending

Orchid's nose cone mask is made from transparent polycarbonate material with openings from soft black silicone material making it comfortable for animal. Each mask has inlet for delivery of anesthetic agent and outlet for connecting to Gas Evacuation System so that exposure of anesthetic agent to the researchers will be avoided. Single channel stand is also available for holding the mask of any of the size and to adjust the position of the mask as needed.

Product	Product Code
Size 1: Nose cone mask for mouse, Diameter 22mm x length 41mm, exposure area 7mm, suitable for animal of weight range 15-40g	NCON-A
Size 2: Nose cone mask for mouse/ neonatal rat, Diameter 27mm x length 46mm, exposure area 12mm, suitable for animal of weight range 40-100g	NCON-B
Size 3: Nose cone mask for rat, Diameter 46mm x length 56mm, exposure area 15mm, suitable for animal of weight range 100-300g	NCON-C
Size 4: Nose cone mask for large rat/ Guinea pig , Diameter 46mm x length 56mm, exposure area 20mm, suitable for animal of weight range 300-450g	NCON-D
Size 5: Mask for Rabbit Diameter 59mm x length 49mm, exposure area 29mm with breathing bag and endotracheal tube of 3mm and 3.5mm (uncuffed)	RABC-01
Ferret mask with breathing circuit and endotracheal tube 2.5 mm and 3 mm (Uncuffed)	FMBC -01
Single Channel stand- suitable for one mouse/ rat mask	NCT-1

### Manifold for multiple masks:

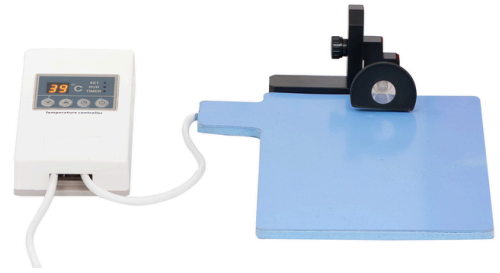
The manifold allows the connection of up to 5 nose masks of mice or up to 3 nose cone masks of rats respectively to one anesthesia system for simultaneous operation. Each manifold has provision to make connection to Gas Evacuation System so that waste gas from all masks can be evacuated.



Product	Product Code
Five Channel Manifold - suitable for 5 mouse masks/ 3 rat masks	NCT-5

### Heating Blanket:

The heating pad helps to keep rodent warm during anesthesia and thus prevent hypothermia. Pad is made of silicon foam for uniform heat distribution and temperature is controlled using a digital temperature controller.



Product	Product Code
Heating blanket with digital temperature controller, suitable for one mouse/ rat Temperature of 25°C, 30°C, 35°C & 40°C can be set on the digital temperature controller. Dimensions: 240 x 140mm Cable length between temperature controller and heating pad: 200 mm Cable length from controller to mains supply: 870 mm Size: Controller Unit (LXWXH mm): 120 X 70 X 27 mm Heating Blanket (LXWXH mm): 240 X 140 X 6 mm	HBLD-02

### Air Pump:

An oxygen source is needed for anesthesia procedure and usually it's an oxygen tank. Orchid has provided options to client eliminating need of Oxygen tank. Orchid's Air Pump is low noise air pump with stable, safe and reliable performance.

Model: SLC-PTD-501

Compact design and easy to transfer

Flow rate: 8 LPM

Voltage: 220V AC



### Mobile Trolley for Anesthesia System:

Orchid has designed special trolley for carrying Veterinary anesthesia system with provision to mount main console, Induction chamber (mouse/rat), Evacuation apparatus and Air Pump. Trolley is provided with drawers for placing Nose Cone Mask and accessories for storing purpose when not in use. Trolley has provision for three electrical sockets for connecting, evacuation apparatus, air pump and heating blanket. Trolley has four castor wheels out which two are with brake and two are without brake.



Product	Product Code
Mobile Trolley with castor wheels for Anesthesia System	TR-NVM-01

## Anesthesia and Euthanasia System:

Orchid has designed an Anesthesia and Euthanasia System which is suitable to carry out anesthesia as well as euthanasia procedures on small rodents. Each system includes a trolley mounted with Tec 3 Isoflurane vaporizer, Oxygen and Carbon dioxide flowmeter. The control panel is mounted with different options like quick flush switch for flushing oxygen, induction chamber or nose cone mask selection switch, active or passive evacuation switch and euthanasia supply and exhaust ports. This trolley is also fitted with three electrical sockets with switches for connecting the evacuation system, heating blanket or air pump. Trolley is fitted with four castor wheels for ease of movements.

### Features:

- Made of stainless steel 304 material
- Single system for anesthesia and euthanasia operation
- Fitted with all control panel switches, inlet and outlet ports at single place giving ease of operation
- Fitted with electrical sockets for connecting evacuation system, air pump or heating blanket.
- Fitted with drawer at bottom for keeping accessories
- Provision to fix cylinders on the same trolley



Product	Product Code	Accessories included/ mounted	Optional
Anesthesia Euthanasia System	AES Ultra 01	Stainless steel trolley, Tec 3 isoflurane vaporizer, oxygen flowmeter, carbon dioxide flow meter, end caps, quick flush switch, Easy fill adaptor. Three electrical sockets with switches and stainless steel drawer are mounted on the trolley. Fitted with castor wheels for ease of movement	<ul style="list-style-type: none"> <li>• Evacuation apparatus with canisters</li> <li>• Nose cone mask of choice</li> <li>• Single or five channel manifold</li> <li>• Induction chamber or euthanasia chamber of choice</li> <li>• Heating blanket</li> <li>• Air pump / O<sub>2</sub> / CO<sub>2</sub> cylinders</li> </ul>



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