

Veta 3X

Veterinary Anesthesia Machine

Operation Manual

English	For detailed operation information, please scan the QR code or visit the website.
Español	Escanee el código QR o visite el sitio web para obtener información detallada sobre el funcionamiento.
Português	Para obter informações detalhadas sobre a operação, leia o QR code ou acesse o site.
Русский	Для получения подробной информации о процессе отсканируйте QR-код или посетите веб-сайт.
Türkçe	Ayrıntılı çalıştırma bilgileri için lütfen QR kodu tarayın veya web sitesini ziyaret edin.
Français	Pour plus d'informations sur le fonctionnement, scannez le code QR ou visitez le site Web.
Italiano	Per informazioni dettagliate sul funzionamento, scansionare il codice QR o visitare il sito Web.
Deutsch	Für detaillierte Informationen zum Betrieb scannen Sie bitte den QR-Code, oder besuchen Sie die Website.
Svenska	Skanna QR-koden eller besök webbplatsen för detaljerad användningsinformation.
Polski	Aby uzyskać szczegółowe informacje na temat użytkowania, zeskanuj kod QR lub odwiedź stronę internetową.



<https://ims.mindrayanimal.com/pub/detail.aspx?tid=14&rid=12000>

English	Scan the QR code or visit the website to watch the installation video.
Español	Escanee el código QR o visite el sitio web para visualizar el vídeo de instalación.
Português	Leia o QR code ou acesse o site para assistir ao vídeo de instalação.
Русский	Отсканируйте QR-код или посетите веб-сайт для просмотра видео с инструкциями по установке.
Türkçe	Kurulum videosunu izlemek için QR kodu tarayın veya web sitesini ziyaret edin.
Français	Scannez le code QR ou visitez le site Web pour visionner la vidéo d'installation.
Italiano	Eseguire la scansione del codice QR o visitare il sito Web per guardare il video sull'installazione.
Deutsch	Scannen Sie den QR-Code oder besuchen Sie die Website, um das Installationsvideo anzusehen.
Svenska	Skanna QR-koden eller besök webbplatsen för att titta på installationsvideon.
Polski	Zeskanuj kod QR lub odwiedź stronę internetową, aby wyświetlić film na temat instalacji.



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All pictures shown are for illustration purpose only and may not be an exact representation of the product.

This manual only provides quick operation information. For detailed operation information and precautions, please refer to operator's manual. If you have any questions about the *Operator's Manual* or cannot access the *Operator's Manual*, contact the Customer Service Department or your local distributor.

Contents of this manual are subject to change without notice.

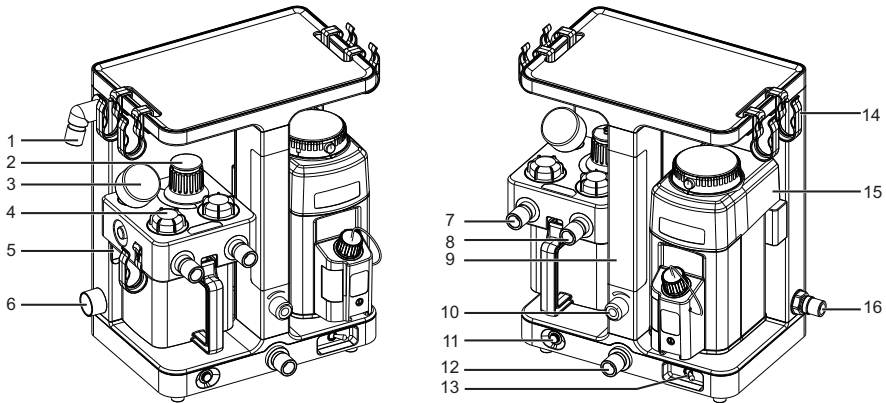
Intended Use

The anesthesia machine supplies anesthetic agents to the animals and provides respiratory support.

Product Information

Front View

Figure2-1 Front View (Configured with O₂ Gas Source)

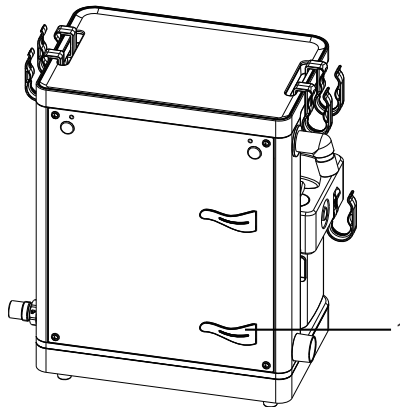


No.	Parts	Description
1.	Reservoir bag connector	Connects the reservoir bag for manual ventilation.
2.	APL valve	<p>A rotary regulator for setting the pressure limit of the breathing system during manual ventilation. The scales on the APL valve indicate approximate pressure.</p> <p>Rotating the APL valve clockwise will increase the pressure limit and rotating it counterclockwise will decrease the pressure limit. The pressure limit will increase by 30 cmH₂O after pressing the APL valve and return to the original pressure after releasing.</p>
3.	Airway pressure gauge	Indicates the airway pressure.
4.	Observation window of expiratory/inspiratory check valve	Observes the status of expiratory and inspiratory check valves from outside the equipment.
5.	Unlocking key	Press it to unlock the CO ₂ absorbent canister.
6.	Gas outlet	Connects AGSS or the anesthesia gas filter canister.
7.	Inspiration connector	Connects the inspiration hose to the anesthesia machine.
8.	Expiration connector	Connects the expiration hose to the anesthesia machine.
9.	Flowmeter	Shows the gas supply flow.
10.	O ₂ flow control knob	Rotate the knob to adjust the O ₂ flow.
11.	O ₂ flush button	<p>Provides fixed O₂ flow for the inspiration connector of the breathing system.</p> <p>NOTE:</p> <p>The animal should be disconnected with the anesthesia machine when pressing the O₂ flush button.</p>
12.	ACGO outlet	Outputs the fresh gas.
13.	ACGO switch	Enables or disables the ACGO function.

No.	Parts	Description
14.	Hook	Hangs the cables of the monitoring device.
15.	Anesthesia vaporizer	The anesthesia vaporizer can accurately feed the anesthetic agent into anesthesia breathing system at certain concentration. Each anesthesia vaporizer is calibrated for a specified anesthetic agent and is only suitable for that anesthetic agent. The specific agent that the anesthesia vaporizer must be used is marked in text and by specific color on the anesthesia vaporizer.
16.	Gas supply inlet	O ₂ supply inlet.

Rear View

Figure2-2 Rear View (Configured with O₂ Gas Source)



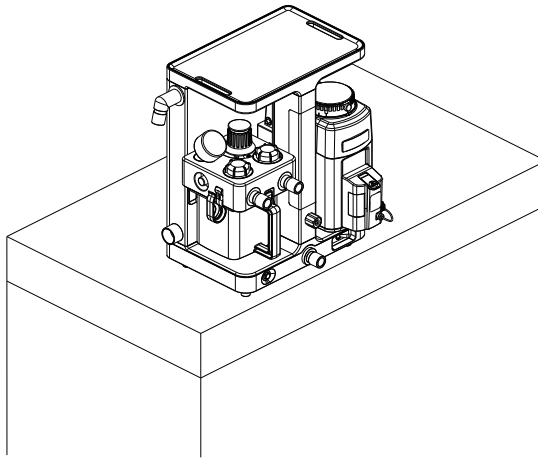
No.	Parts	Description
1.	Cable fixing clip	Used to place the cables of monitoring device inside the clip.

Installation

Installing the Main Unit

The main unit can be installed on the desktop, trolley and wall.

Main Unit Installed on the Desktop



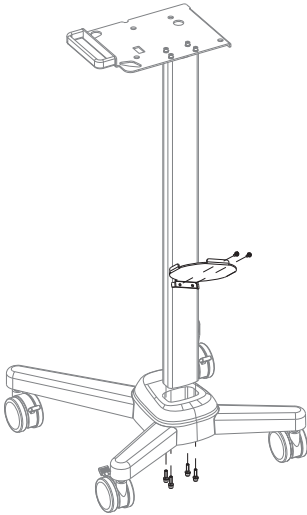
The anesthesia machine must be installed on the desktop under the following conditions:

- Flat without tilting
- Bearing capacity: greater than 50 kg
- Recommended height of desktop: 900 mm ~1100 mm
- Depth: larger or equal to 400 mm

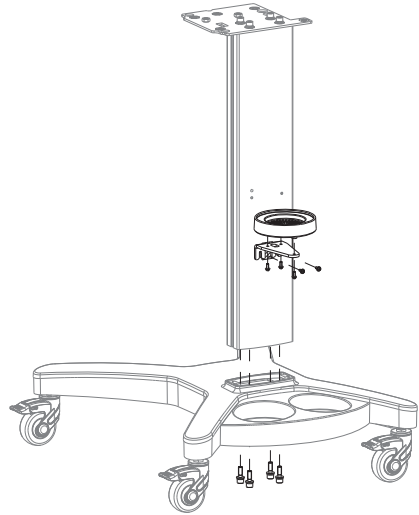
Installing the Main Unit on the Trolley

Perform the following procedure:

1. Install the column and install the tray.

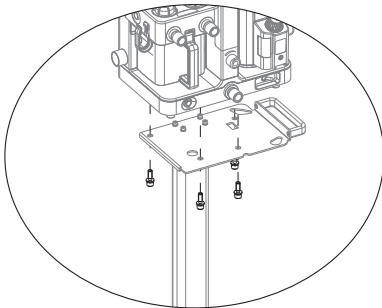


Standard-configuration trolley

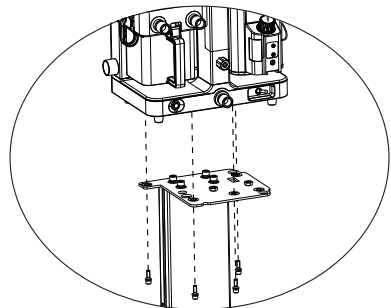


High-configuration trolley

- a. Use four M8x25 hexagon socket cap head screws to install the column into the trolley base.
 - b. Use three M4x12 cross head combination screws to install the tray to the tray bracket. (For high-configuration trolley only).
 - c. Use two M4x12 cross head combination screws to fix the tray bracket to the column.
2. Use four M8x25 hexagon socket cap head screws to install the anesthesia machine on the trolley.

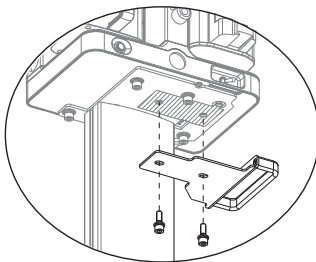


Standard-configuration trolley

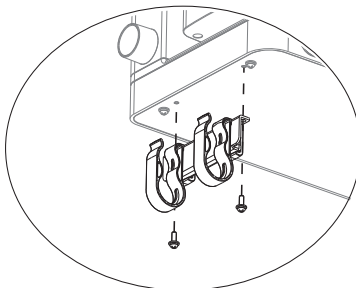


High-configuration trolley

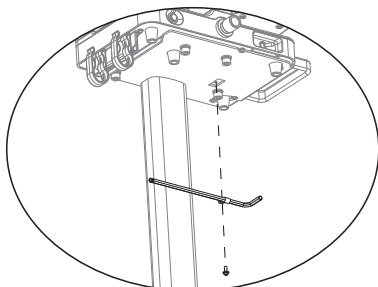
3. Use two M8x25 hexagon socket cap head screws to install the handrail under the trolley.
(For high-configuration trolley only).



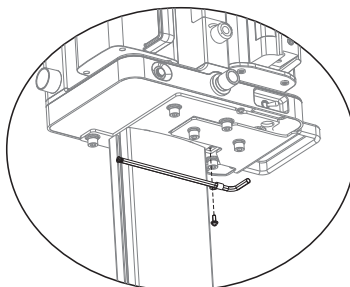
4. Use two M4x12 cross head combination screws to fix the cable arrangement assembly under the anesthesia machine.



5. Insert the wrench into the cable tie and fix the wrench at the bottom of the anesthesia machine.



Standard-configuration trolley



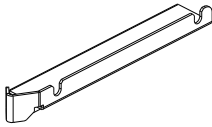
High-configuration trolley

Install the Anesthesia Machine on the Solid Brick Wall or Concrete Wall

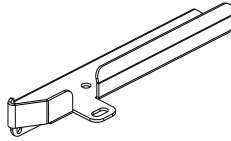
WARNING

- The anesthesia machine must be installed by professionals. Failure to install the anesthesia machine may cause serious personal or animal injury.
- The consultant and/or contractor is responsible for determining the security of installing anesthesia machine on the hospital wall, including the selection of appropriate fasteners and appropriate installation methods. Dismantling of the entire or part of new or rebuilt wall materials must be carried out for the purpose of assembling the wall bracket.
- The hospital is liable for the risks in the installation process.
- Although the best efforts have been made in this manual to ensure safety of the bracket installation, the actual construction materials and installation process are beyond the control of Mindray Animal Medical. Therefore, Mindray Animal Medical is not liable for any such installation failures.
- Install the anesthesia machine on the solid brick wall or concrete wall with vertical bearing capacity greater than 120 kg and thickness greater than 20 cm. Install other walls after reinforcement and verification. Wall verification method (for reference only): After the wall bracket is installed, perform the weight-bearing test four times (120 kg) for 1 min. Ensure that no exceptions such as screw loosening and deformation occur.

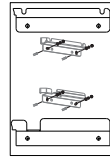
Check whether the materials are complete before installation. The material lists of the wall mount bracket are as follows:



Wall bracket
(upper)
(Qty: 1)



Wall bracket (lower)
(Qty: 1)



Wall bracket drilling
label
(Qty: 1)



Tray
(Optional)
(Qty: 1)



M8×100
steel
expansion
bolt
(Qty: 4)



M8×25
hexagon
socket cap
head screws
(Qty: 1)



M4x12 cross
pan head
combination
screw
(Qty: 3)



M8 hexagon
nuts
(Qty: 4)



Hexagonal
wrench
(Qty: 1)



Wall mounting
screw
(Qty: 2)



Cable tie
(Qty: 1)



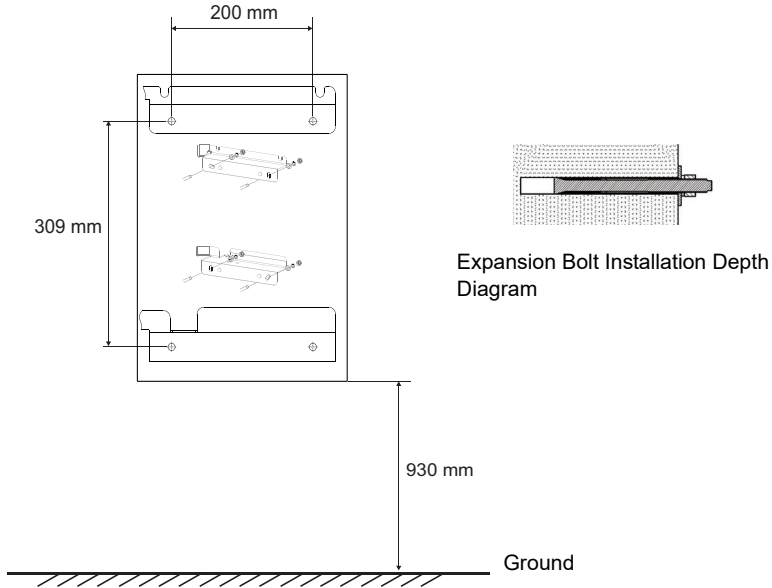
Assembly
(Qty: 1)

The recommended tools (not included in the packing list) are as follows:

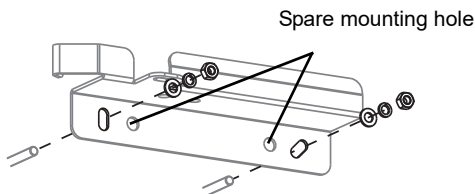
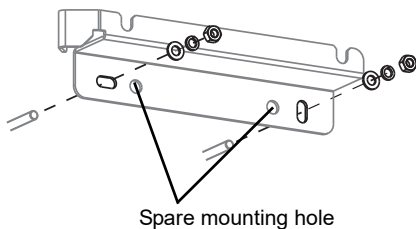
- Tape measure
- Pencil
- Electric impact drill
- Hammer
- Gradienter
- Electric screwdriver
- Wrench

Perform the following procedure:

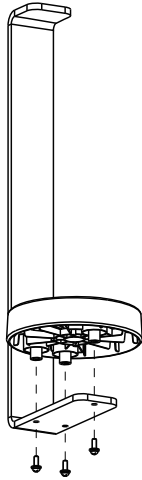
1. Position and drill the wall.



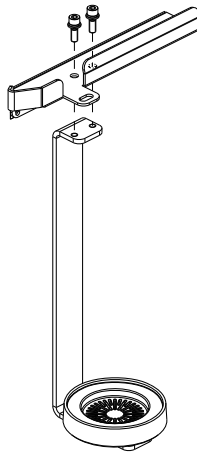
- a. Use a pencil to draw a horizontal line 930 mm above the ground.
 - b. Paste the wall bracket drilling label to a proper position on the wall. It is recommended that the lower edge of the wall bracket drilling label is 930 mm away from the ground.
 - c. Punch 4 holes with a diameter of 10 mm and a depth of 85 to 100 mm.
 - d. Tighten the nuts of the four M8x100 steel expansion bolts before insert them to the holes and the insertion depth is as shown in the figure above. Plain washer should be attached to the wall panel. Fully tighten the expansion bolts.
2. Install the wall bracket.



- a. Use the gradienter to adjust the horizontal position.
 - b. Use a torque wrench to tighten the expansion screws (not less than $12.5 \text{ N}\cdot\text{M}$ torque).
If the screws cannot be rotated, replace the drill holes.
 - c. Tighten the expansion screws with the M8 hexagon nuts.
3. Install the tray.
 - a. Use three M4×12 cross head combination screws to fasten the tray to the tray assembly.



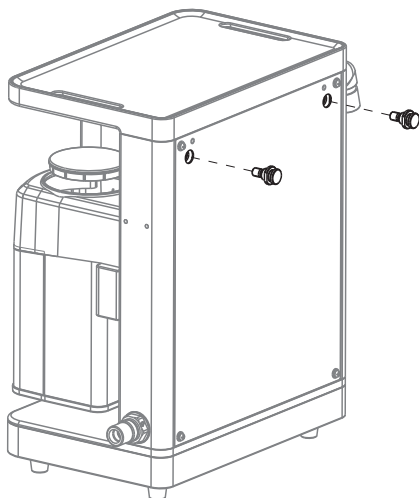
- b.** Use two M8x25 hexagon socket cap head screws to fix the tray assembly on the lower wall bracket.



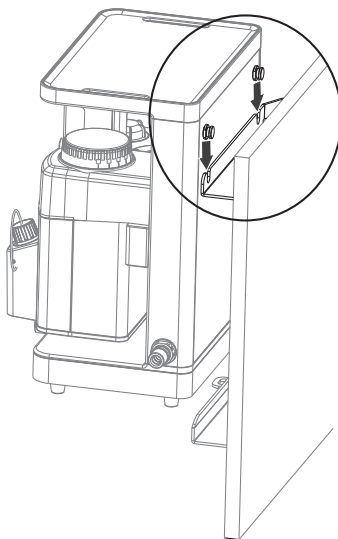
4. Hang the anesthesia machine.

- a.** Remove the 2 silicone plugs from the back of the anesthesia machine, and install the 2 wall-mounting screws to the back of the anesthesia machine (not less than 25 N•M torque).

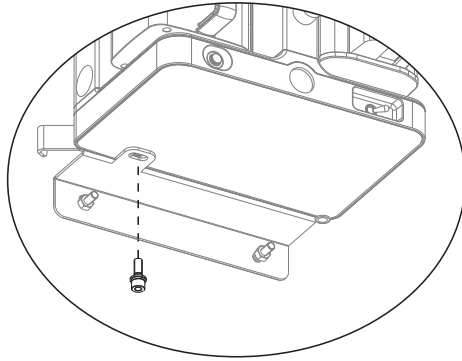
NOTE: Tighten the wall-mounting screws to prevent the anesthesia machine from falling off and causing injury.



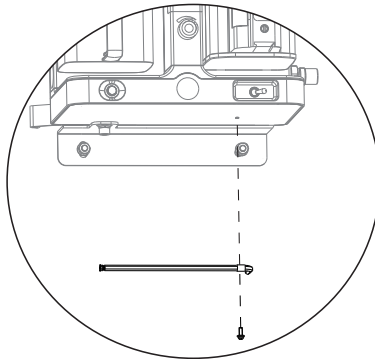
- b.** Align the holes on the upper wall bracket and hang the anesthesia machine.



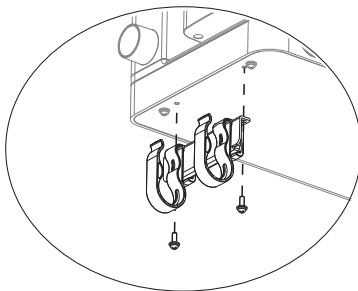
5. Use one M8x25 hexagon socket cap head screw to lock the anesthesia machine to the bottom of lower wall bracket.



6. After the installation is completed, insert the wrench into the cable tie and fix the wrench at the bottom of the anesthesia machine.



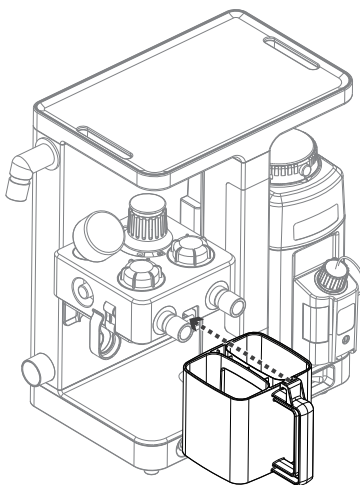
7. Use two M4x12 cross head combination screws to fix the cable arrangement assembly under the anesthesia machine, as shown in the figure below.



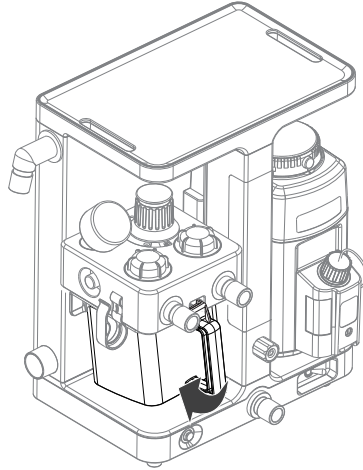
Installing the CO₂ Absorbent Canister

Perform the following procedure:

1. Attach the buckle of the CO₂ absorbent canister to the slot on the breathing circuit.



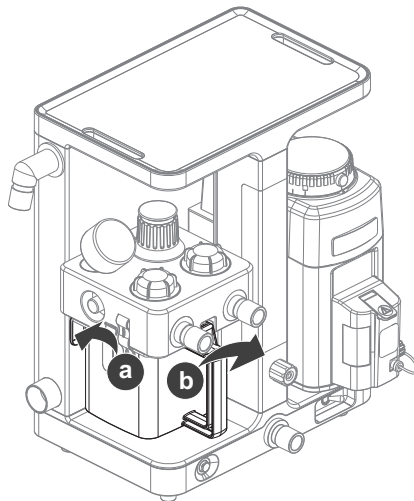
2. Hold the CO₂ absorbent canister handle and push it backwards to lock it to the breathing circuit.



Changing the CO₂ absorbent

Perform the following procedure:

1. Take out the CO₂ absorbent canister.
 - a. Press the unlocking key of the CO₂ absorbent canister.
 - b. Take out the CO₂ absorbent canister upward.

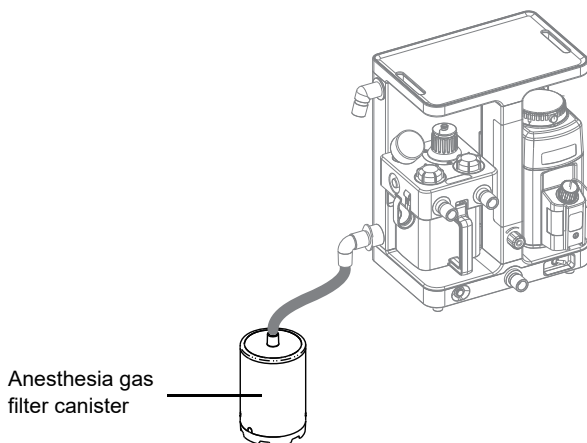


2. Pour in new CO₂ absorbent.

3. Install the CO₂ absorbent canister by referring to “Installing the CO₂ Absorbent Canister”.

Installing the Anesthesia Gas Filter Canister

Connect the anesthesia gas filter canister to the gas outlet of the anesthesia machine with a conversion connector and a pipe.

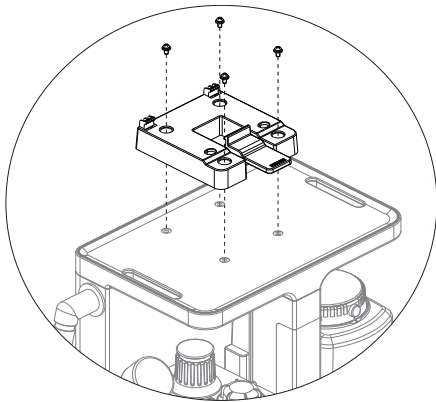


Installing the Monitor Installation Shelf

Perform the following procedure:

1. Remove four screw hole overlays on the top shelf of the anesthesia machine.
2. Install the monitor installation shelf.

Use the four M4x12 cross pan head combination screws to install the monitor installation shelf onto the top shelf of the anesthesia machine.



Preparations

Scenarios	Checkout Items
Each day before administering anesthesia machine	<ul style="list-style-type: none">• Pipeline test• Vaporizer check• Anesthesia gas filter canister check
Prior to administering anesthesia machine to each animal	<ul style="list-style-type: none">• Spare material check• Manual circuit leak test• Gas supply pressure check• Breathing system test
After replacing the CO ₂ absorbent or breathing tubes	Leak test

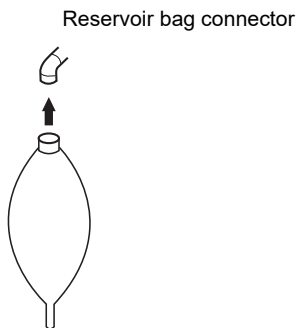
Operation

Manual Ventilation

Perform manual ventilation by referring to the following procedure.

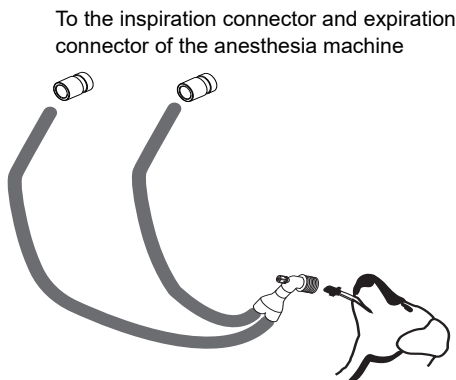
Connecting Reservoir Bag

Select an appropriate reservoir bag according to the animal's weight. Push the O₂ flush button to inflate the reservoir bag if necessary.



Connecting the Breathing Tube

Select an appropriate breathing tube according to the type of the animal. Connect the breathing tube to the animal end, inspiration connector and expiration connector of the anesthesia machine according to the figure below.



Setting Gas Flow

Adjust the gas flow by rotating the knob. The value is displayed on the flowmeter.

Setting Vaporizer Concentration

Press the “0” key and rotate the control dial of the anesthetic vaporizer to set the concentration of anesthetic agent to a proper value.

Setting the APL Valve

Perform the following procedure:

1. Turn the APL valve adjustment knob to a desired pressure.
2. Pull down on the APL valve knob to keep the pressure.
3. Pull up on the APL valve knob to relieve the pressure.

Performing Non-rebreathing Ventilation

Perform the following procedure:

1. Connect the non-rebreathing circuit to the ACGO connector and animal end.
2. Adjust the regulator on the non-rebreathing circuit to a desired value.
3. Turn on the ACGO switch.

Ending Operation

Perform the following procedure:

1. Turn off the anesthesia vaporizer.
2. Push the O₂ flush button to eliminate waste gas.
3. Turn off the flowmeter according to the animal's condition.
4. Disconnect the pipeline.
5. Remove the monitoring device.

Maintenance

Cleaning and Disinfection

The anesthesia machine should be cleaned and disinfected before its first use, then in compliance with facility procedures. For step by step instructions, please refer to the

Cleaning and Disinfection section of the *Operator's Manual*. Table below lists the recommended cleaning agents and disinfectants.

Name	Category
Clean water	Cleaning agent
Soap solution (pH 7.0–10.5)	Cleaning agent
Alcohol (75%)	Moderately efficient disinfectant
Ultraviolet radiation	Disinfection equipment

Maintenance Schedule

Minimum Maintenance Frequency	Maintenance Items	Maintenance Operation
Daily	Anesthesia gas filter canister	Check the weight of the anesthesia gas filter canister. Replace the anesthesia gas filter canister if it is overweight the range recommended by the manufacture.
	O ₂ flush button	Check the O ₂ flush function.
	Exteriors of the anesthesia machine	Use soft cloths, mild soap and water to clean the exterior of the anesthesia machine.
	CO ₂ absorbent canister	Use soft cloths, mild soap and water to clean the CO ₂ absorbent canister.
Every week	Inspiratory and expiratory valve	Check whether the inspiratory and expiratory seal is damaged; check whether the inspiratory and expiratory valve is damaged or coiled.
Biweekly	Anesthesia Vaporizer	Drain the vaporizers.

Minimum Maintenance Frequency	Maintenance Items	Maintenance Operation
On-demand	CO ₂ absorbent	Replace the CO ₂ absorbent if CO ₂ absorbent color change is detected. Follow the manufacturer's instructions to replace it.
	AGSS transfer tube	Replace the AGSS transfer tube if it is damaged.
	Gas supply hose	Replace the gas supply assemblies if it is damaged.
	APL valve	<ul style="list-style-type: none"> • Replace the APL valve if the relief pressure of the APL valve deviates greatly. • If the APL valve is on the MIN position, the breathing bag is swollen, and the airway pressure exceeds 5 cmH₂O, contact the Customer Service Department or your local distributor.

