

Veta 3X

Veterinary Anesthesia Machine

Operator's Manual



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Release date: 2023-12

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- The electrical installation of the relevant room complies with the applicable national and local requirements; and
- The product is used in accordance with the instructions for use.

WARNING

- **It is important for the hospital or organization that employs this equipment to carry out a reasonable service/maintenance plan. Neglect of this may result in machine breakdown or personal injury.**
 - **This equipment must be operated by skilled/trained clinical professionals.**
-

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Preface

Manual Purpose

This manual contains the instructions necessary to operate the product safely and in accordance with its function and intended use. Observance of this manual is a prerequisite for proper product performance and correct operation and ensures animal and operator safety.

This manual is based on the maximum configuration and therefore some contents may not apply to your product. If you have any question, please contact us.

Intended Audience

This manual is geared for clinical professionals or veterinarian who are expected to have a working knowledge of medical procedures, practices and terminology as required for monitoring of critically ill animals.

Illustrations

All illustrations in this manual serve as examples only. They may not necessarily reflect the setup or data displayed on your Anesthesia Machine.

Conventions

- *Italic* text is used in this manual to quote the referenced chapters or sections.
- > is used to indicate operational procedures.

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1 Safety

1.1 Safety Information

WARNING

- Indicates a potential hazard or unsafe practice that, if not avoided, could result in death or serious injury or property damage.
-

CAUTION

- Indicates a potential hazard or unsafe practice that, if not avoided, could result in minor personal injury or product/property damage.
-

NOTE:

- Highlights important precautions and provides descriptions or explanations for better use of this product.
-

1.1.1 Warnings

WARNING

- U.S.A Federal Law restricts this device to sale by or on the order of a veterinarian.
 - Do not operate the anesthesia machine before reading this manual.
 - The anesthesia machine cannot be used in an MRI environment.
 - The anesthesia machine should be operated by professional and trained anesthetists.
 - Do not use the anesthesia machine in the presence of flammable or explosive materials to prevent fire or explosion.
 - If the anesthesia machine needs to be maintained, contact the Customer Service Department or your local distributor.
 - Before moving the anesthesia machine, remove objects from the top shelf and bracket to prevent the anesthesia machine from tilting. Always transfer the anesthesia machine carefully to prevent the anesthesia machine from fall, collision, violent vibration or other damage from external mechanical force.
 - Before moving the anesthesia machine, remove the Bain Block and its accessories to prevent the Bain Block from fall, collision, violent vibration or other damage from external mechanical force.
 - Do not push or lift the anesthesia machine via the top shelf.
-

- Fasten devices placed on the top shelf securely to prevent hazards caused by unexpected sliding.
 - Do not use this anesthesia machine when there is leakage in the breathing system.
 - Check the specifications of the Anesthesia Gas Scavenging System (AGSS) and the specifications of anesthesia machine to ensure compatibility and to prevent a mismatched processing system.
 - Using improper connectors may cause hazards. Ensure that all assemblies use proper connectors.
 - Single-use breathing tubes, soda lime, and other single-use items may be considered to have potentially biological hazards and should not be reused. Dispose of these items in accordance with the hospital's regulations and local regulations for contaminated and biologically hazardous items.
 - To ensure animal safety, use only accessories specified in this manual.
 - Do not use antistatic masks or breathing tubes.
 - When the main unit is installed on the trolley, the handrail should not be used to lift the anesthesia machine.
-

1.1.2 Cautions

CAUTION

- When the anesthesia machine and its accessories approach the end of their service life, dispose of them in compliance with applicable local laws and regulations or hospital's regulations.
 - The anesthesia machine can keep stable when it is tilted at 5 degrees. Do not hang objects to both sides of the anesthesia machine to prevent toppling.
 - Do not use or store the gas supply hose assembly in an environment exposed to ultraviolet light, oxidizing agents, or in a high-temperature or moist environment. Aged gas supply hose assembly may cause the release of pressure in the assembly, resulting in damage to people and animals.
 - When the main unit is installed on the trolley, unintended movement may occur if the casters are not locked. Casters should be locked during operating the machine.
-

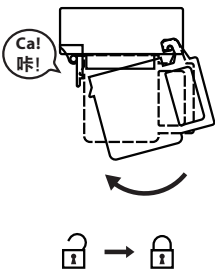
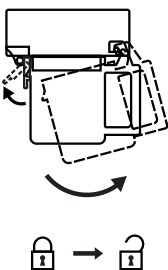
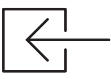
1.1.3 Notes

NOTE:

This manual describes the anesthesia machine based on the most complete configuration. The anesthesia machine you purchase may not support some configuration options or functions.

1.2 Equipment Symbols

Symbol	Description	Symbol	Description
	Date of manufacture		Manufacturer
	Temperature limit		Atmospheric pressure limitation
	Humidity limitation		Serial number
	Refer to instruction manual/ booklet		This way up
	Fragile, handle with care		Stacking limit by number
	Keep dry		Oxygen supply connector
MAX	Maximum value	MIN	Minimum value
	Lock		Unlock
O₂+	O ₂ flush button		Flow or pressure control knob
	ACGO switch		No pushing
IPX1	Protected against vertically falling water drops		General warning sign

Symbol	Description	Symbol	Description
	Installation diagram of the CO ₂ absorbent canister		Unlocking diagram of the CO ₂ absorbent canister
	Inspiration connector		Expiration connector
	AGSS outlet		Reservoir bag connector
	Gas inlet		UKCA marking
	CE marking		MR Unsafe – the product is not intended to be used within magnetic resonance (MR) environment
	Caution: Federal Law restricts this device to sale by or on the order of a veterinarian		Tilt angle must not be larger than 5°

The general meaning assigned to geometric shapes, safety colors and contrast colors for safety signs are as follows:

Geometric shape	Meaning	Safety color	Contrast color	Graphical symbol color
	Prohibition	Red	White	Black
	Mandatory action	Blue	White	White
	Warning	Yellow	Black	Black

2 Overview

2.1 Intended Use

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

2.2 Contraindications

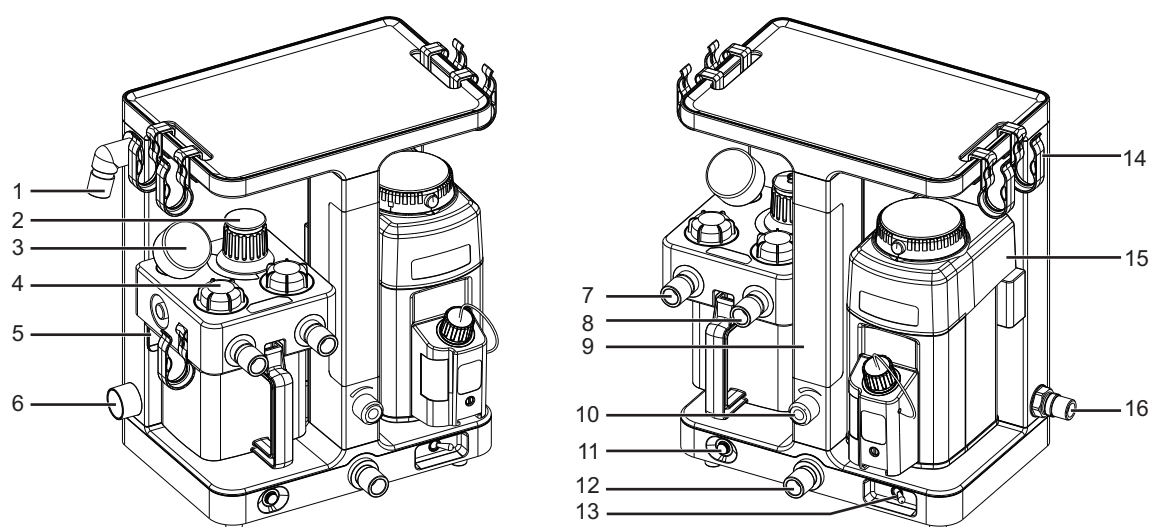
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2.3 Product Information

2.3.1 Equipment Views

Front View

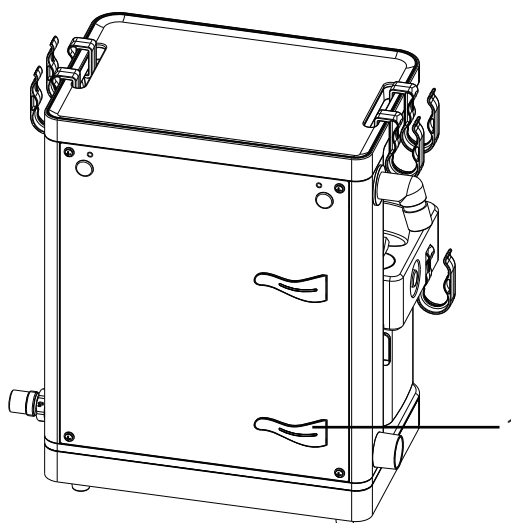
Figure 2-1 Front View (Configured with O₂ Gas Source)



No.	Parts	Description
1.	Reservoir bag connector	Connects the reservoir bag for manual ventilation.
2.	APL valve	A rotary regulator for setting the pressure limit of the breathing system during manual ventilation. The scales on the APL valve indicate approximate pressure. 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.
3.	Airway pressure gauge	Indicates the airway pressure.
4.	Observation window of expiratory/inspiratory valve	Observes the status of expiratory and inspiratory 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.	O ₂ Flowmeter	Shows the O ₂ flow.
10.	O ₂ flow control knob	Rotate the knob to adjust the O ₂ flow.
11.	O ₂ flush button	Provides fixed O₂ flow for the inspiration connector of the breathing system. NOTE: The animal should be disconnected with the anesthesia machine when pressing the O₂ flush button.
12.	ACGO outlet	Outputs the fresh gas.
13.	ACGO switch	Enables or disables the ACGO function.
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.	O ₂ Gas supply inlet	O ₂ supply inlet.

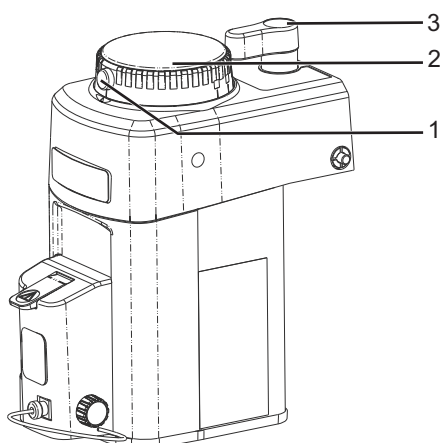
Rear View

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

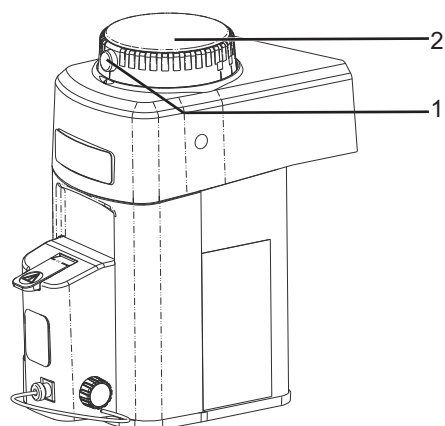


No.	Parts	Description
1.	Cable fixing clip	Used to place the cables of monitoring device inside the clip.

2.3.2 Anesthesia Vaporizer



Detachable anesthesia vaporizer

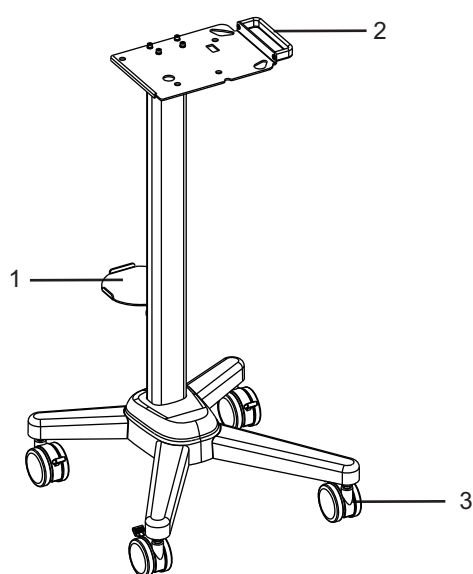


Non-detachable anesthesia vaporizer

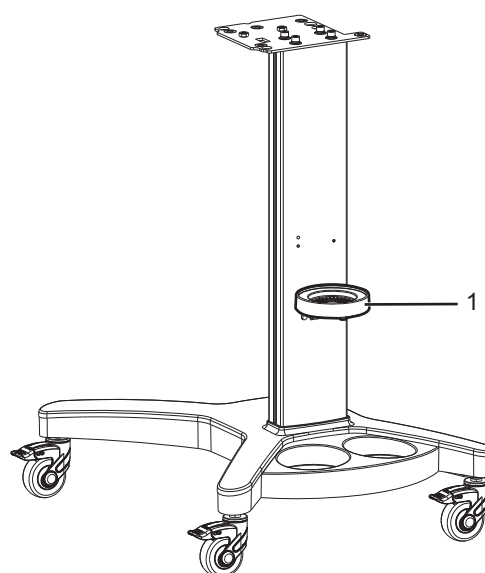
No.	Parts	Description
1.	“0” button	The “0” button on the vaporizer has locking function. Press this button first before turning the control dial.
2.	Control dial	Press the “0” button and turn the control dial to set the concentration of anesthetic agent.
3.	Locking lever	Turn the locking lever clockwise to lock the vaporizer in position.

2.3.3 Trolley

There are 2 kinds of trolley options: standard-configuration trolley and high-configuration trolley.



Standard-configuration trolley

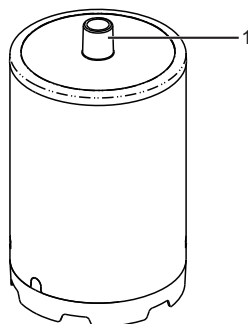


High-configuration trolley

No.	Parts	Description
1.	Tray	Used to place the anesthesia gas filter canister.
2.	Handrail	Used to move the anesthesia machine. NOTE: The handrail should not be used to lift the anesthesia machine.
3.	Caster	Used to move the anesthesia machine and the fix the anesthesia machine through the brakes.

2.3.4 Waste Gas Disposal System

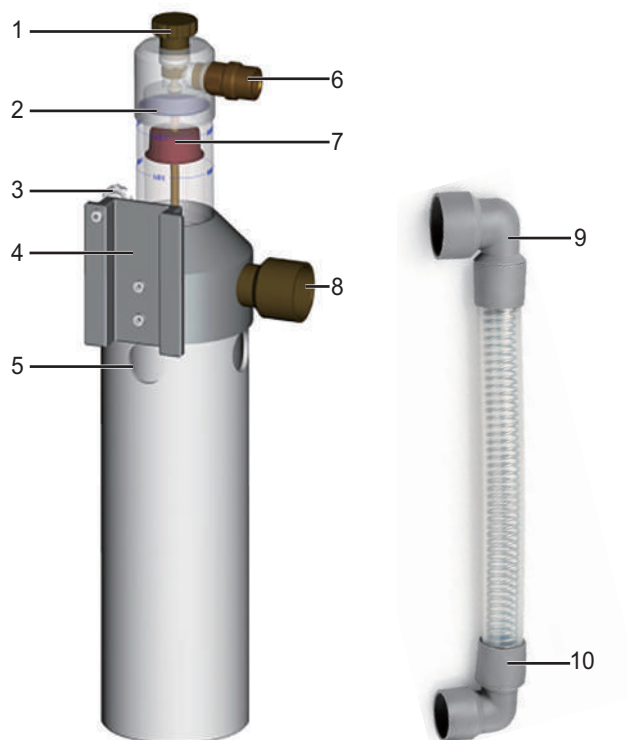
Anesthesia Gas Filter Canister



No.	Parts	Description
1.	Anesthesia gas filter canister port	Connects to the gas outlet of the anesthesia machine through the pipe.

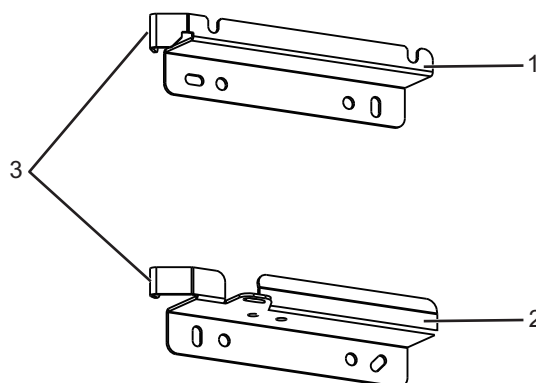
AGSS

The figure below shows the components of AGSS.



No.	Parts	Description
1.	Flow control	Adjust the flow in the AGSS by rotating the flow control clockwise or counterclockwise until the floater is between the MIN and MAX scales.
2.	Filter screen	Filters impurities.
3.	Guide slot locking knob	Used to lock the AGSS fixing plate.
4.	AGSS fixing plate	For the mounting the AGSS to the anesthesia machine.
5.	Pressure compensation opening	Adjusts the internal pressure of AGSS.
6.	AGSS active scavenging outlet	Connects to the anesthesia gas filter canister by connecting with an EVAC hose.
7.	Float	Indicates the exhaust flow.
8.	AGSS air inlet	Connects to the waste gas scavenging outlet of the anesthesia machine by connecting with a transfer tube.
9.	Transfer tube connector 1	Connects to the gas inlet of the AGSS.
10.	Transfer tube connector 2	Connects to the gas outlet of the anesthesia machine.

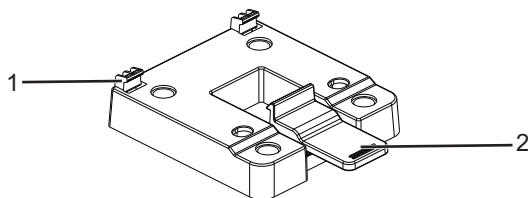
2.3.5 Wall Bracket



No.	Parts	Description
1.	Wall bracket (upper)	Used to install the main unit on the solid brick wall or concrete wall.
2.	Wall bracket (lower)	Used to support the anesthesia machine and prevent it from going upward.
3.	Hook	Used to place the cables of monitoring device inside the hooks.

2.3.6 Monitor Installation Shelf

The monitor installation shelf is installed on the top shelf of the anesthesia machine and is used to fix the monitor specified by Mindray Animal Medical.



No.	Parts	Description
1.	Buckle	Used to lock the monitor.
2.	Handle	Press the handle and vertically take out the monitor.

3 Installations

3.1 Installing the Main Unit

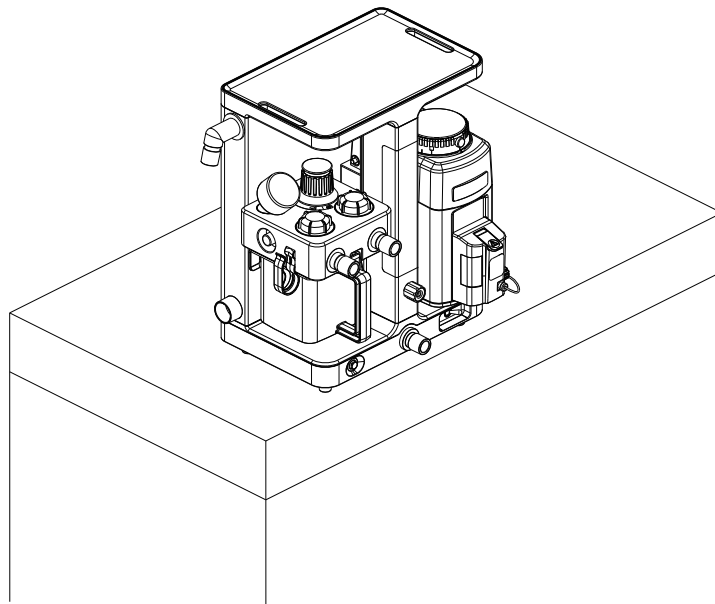
⚠ CAUTION

Install the anesthesia machine properly to prevent anesthesia machine from falling, collision, violent vibration, or other damage caused by external mechanical force.

NOTE:

Install the anesthesia machine in a place that facilitates observation, operation, and maintenance.

3.1.1 Installing the Main Unit on the Tabletop



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

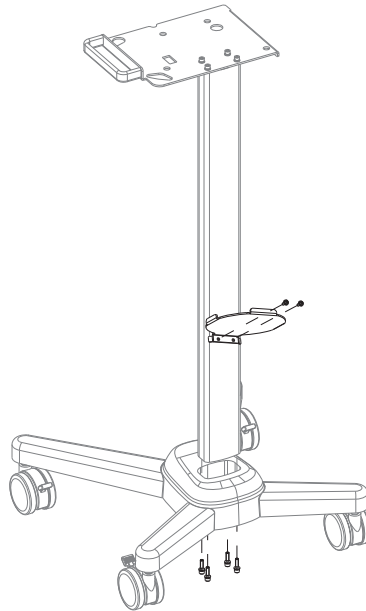
- Flat without tilting
- Bearing capacity: greater than 50 kg
- Recommended height of tabletop: 900 mm -1100 mm
- Depth: larger or equal to 400 mm

3.1.2 Installing the Main Unit on the Trolley

Install the Main Unit on the Standard-configuration Trolley

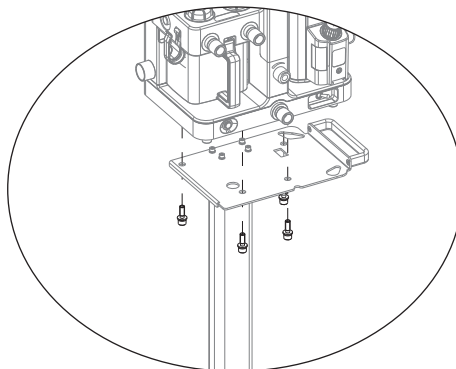
Perform the following procedure:

1. Install the column and install the tray.



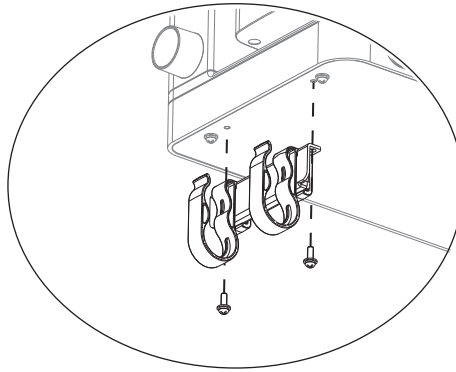
- a. Use four M5x45 hexagon socket combination screws to install the column into the trolley base.
 - b. Use two M4x12 cross head combination screws to install the tray to the column.
2. Install the anesthesia machine to the trolley.

Use four M8x25 hexagon socket cap head screws to install the anesthesia machine on the standard-configuration trolley.



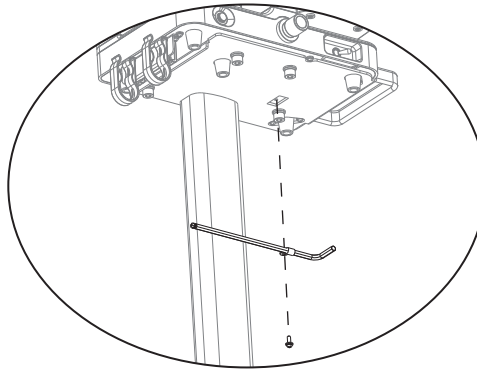
3. Install the cable arrangement assembly.

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



4. Fix the wrench.

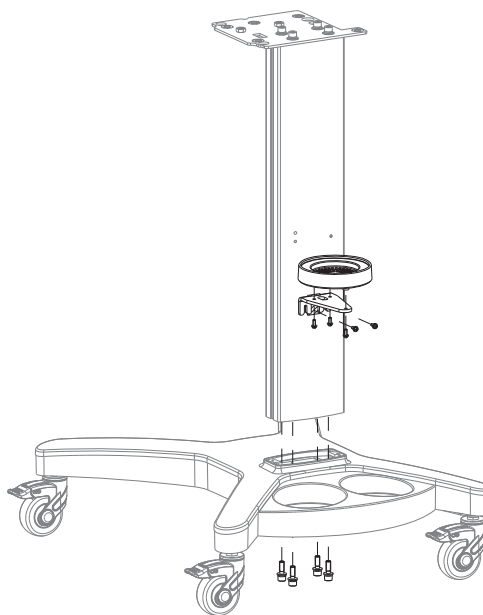
Insert the wrench into the cable tie and fix the wrench at the bottom of the anesthesia machine.



Install the Main Unit on the High-configuration Trolley

Perform the following procedure:

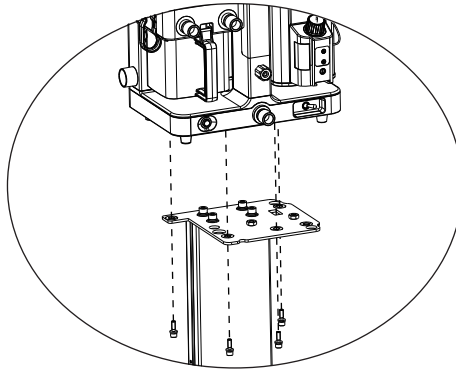
1. Install the column and install the tray.



- 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.
- c. Use two M4x12 cross head combination screws to fix the tray bracket to the column.

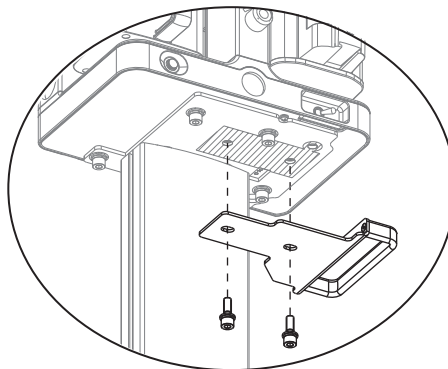
2. Install the anesthesia machine to the trolley.

Use four M8x25 hexagon socket cap head screws to install the anesthesia machine on the high-configuration trolley.



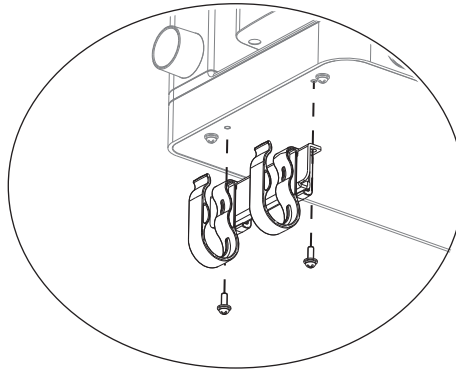
3. Install the handrail.

Use two M8x25 hexagon socket cap head screws to install the handrail under the high-configuration trolley.



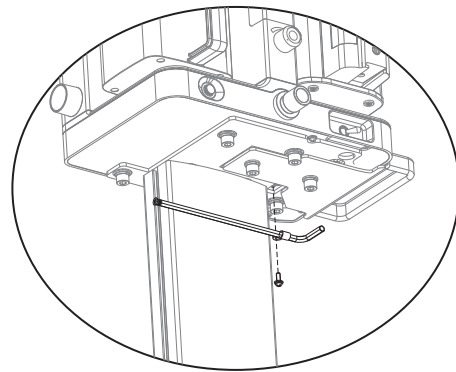
4. Install the cable arrangement assembly.

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



5. Fix the wrench.

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



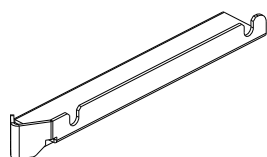
3.1.3 Installing the Main Unit on the Wall

WARNING

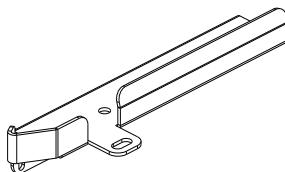
- The anesthesia machine must be installed by professionals. Failure to install the anesthesia machine may cause serious personal or animal injury.
 - The consultant and contractor are responsible for determining the security of installing anesthesia machine on the hospital wall, including the selection 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 wall 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.
-

Preparations

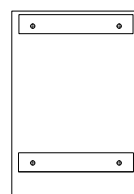
Check whether the materials are complete before installation.



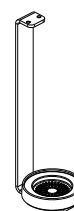
Wall bracket (upper)
(Qty: 1)



Wall bracket (lower)
(Qty: 1)



Wall bracket
drilling label
(Qty: 1)



Tray (Optional)
(Qty: 1)



M8x100
steel
expansion
bolt
(Qty: 4)



M8x25
hexagon
socket cap
head screws
(Qty: 1)



M4x12 cross
pan head
combination
screw
(Qty: 3)



M8 hexagon
nuts
(Qty: 4)



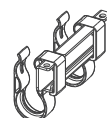
Hexagonal
wrench
(Qty: 1)



Wall
mounting
screw
(Qty: 2)



Cable tie
(Qty: 1)



Cable arrangement
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
- Torque wrench

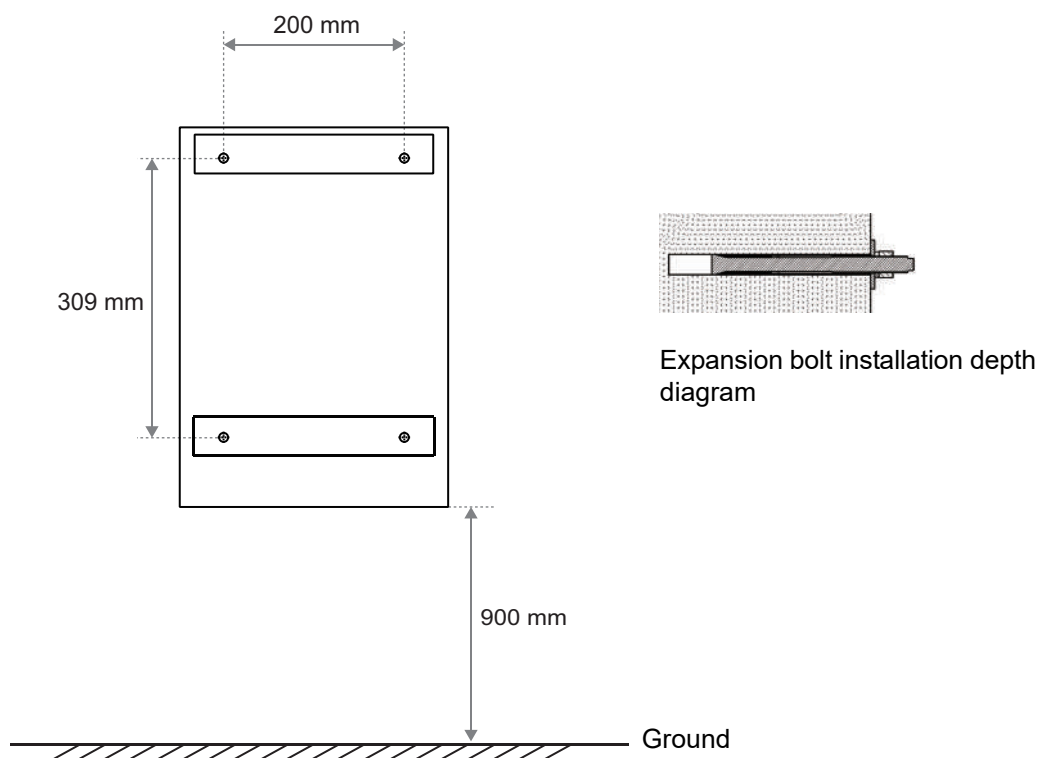
Install the Main Unit on the Solid Brick Wall or Concrete Wall

WARNING

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.

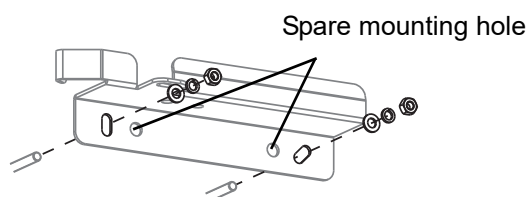
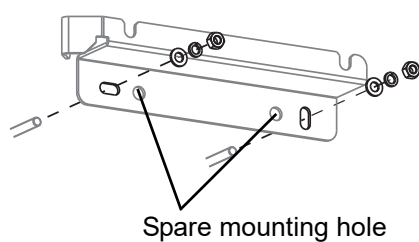
Perform the following procedure:

1. Position and drill the wall.

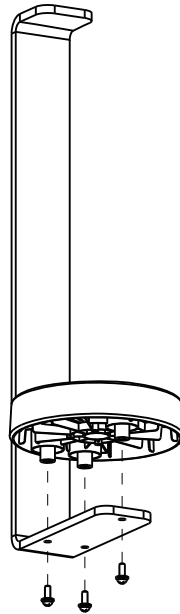


- a. Use a pencil to draw a horizontal line 900 mm above the ground.
- b. Paste the wall bracket drilling label to a proper position on the wall. It is recommended that the lower edge of the wall bracket drilling label is 900 mm away from the ground.
- c. Punch 4 holes with a diameter of 10 mm and a 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 steel expansion bolts.

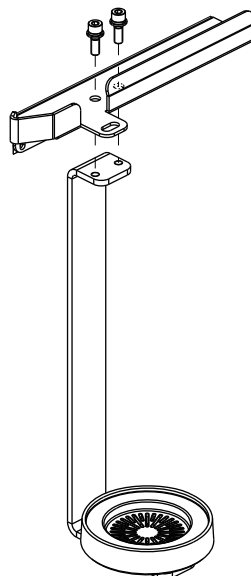
2. Install the wall bracket.



- a. Use a gradienter to adjust the horizontal position.
 - b. Use a torque wrench to tighten the expansion screws (not less than 12.5 N•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.



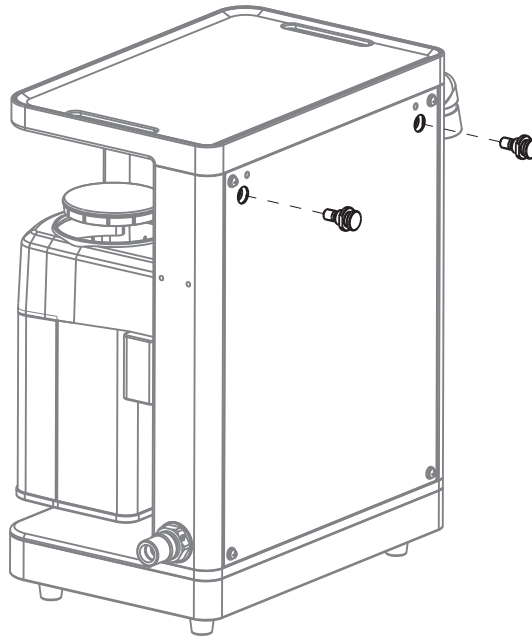
- b. Use two M8x25 hexagon socket cap head screws to fix the tray assembly on the lower wall bracket.



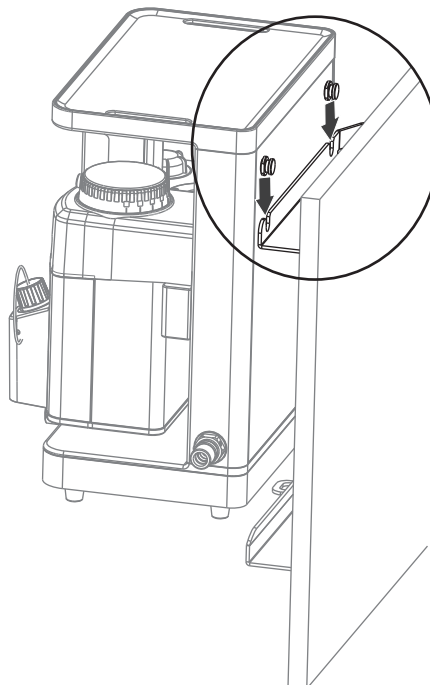
4. Hang the anesthesia machine.

- a. After removing the two silicone plugs on the back of the anesthesia machine, use a torque wrench to tighten the 2 wall-mounting screws to the back of the anesthesia machine (not less than 25 N•M torque).

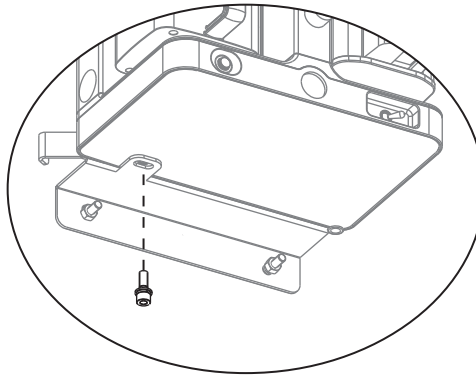
NOTE: Tighten the wall-mounting screws to prevent the anesthesia machine from falling off and causing injury.



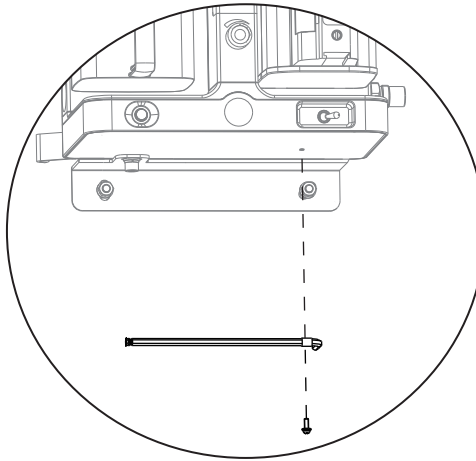
- b. Align the holes on the upper wall bracket and hang the anesthesia machine.



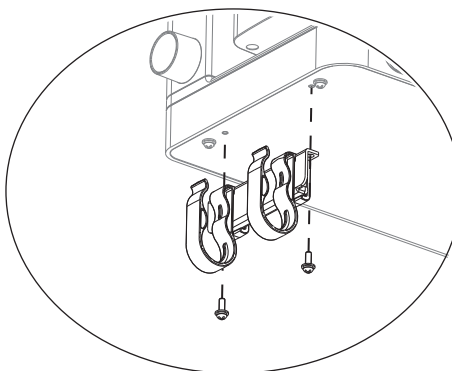
5. Use one M8x25 hexagon socket cap head screw to lock the anesthesia machine to the bottom of lower wall bracket.



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.



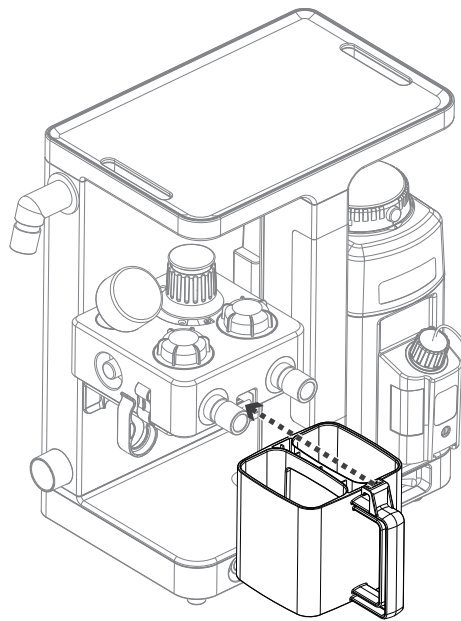
3.2 Installing the CO₂ Absorbent Canister

NOTE:

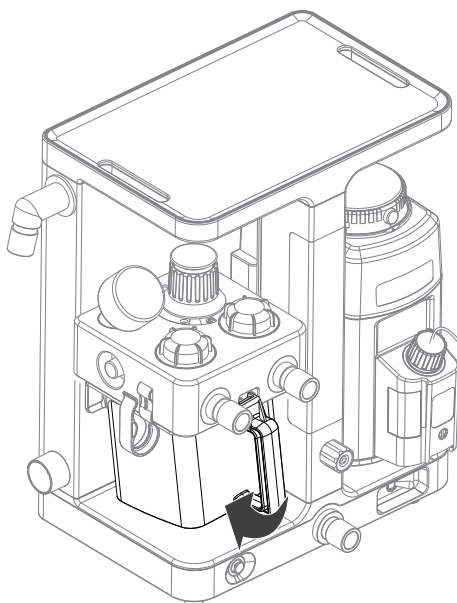
When reinstalling the CO₂ absorbent canister, check that it is firmly seated.

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.



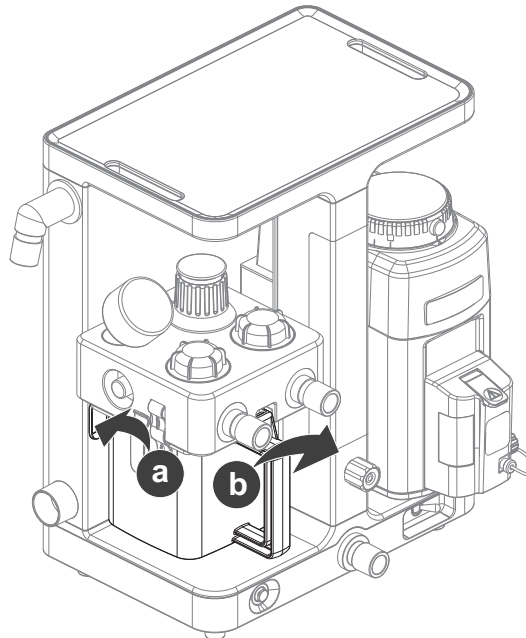
3.3 Changing the CO₂ Absorbent

NOTE:

- Replace the CO₂ absorbent if the CO₂ absorbent color changes.
 - The CO₂ absorbent poured in should not exceed the maximum level of the CO₂ absorbent canister.
 - When installing the CO₂ absorbent canister after replacing the CO₂ absorbent, be sure to check that it is tightly locked.
-

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 “3.2 Installing the CO₂ Absorbent Canister”.

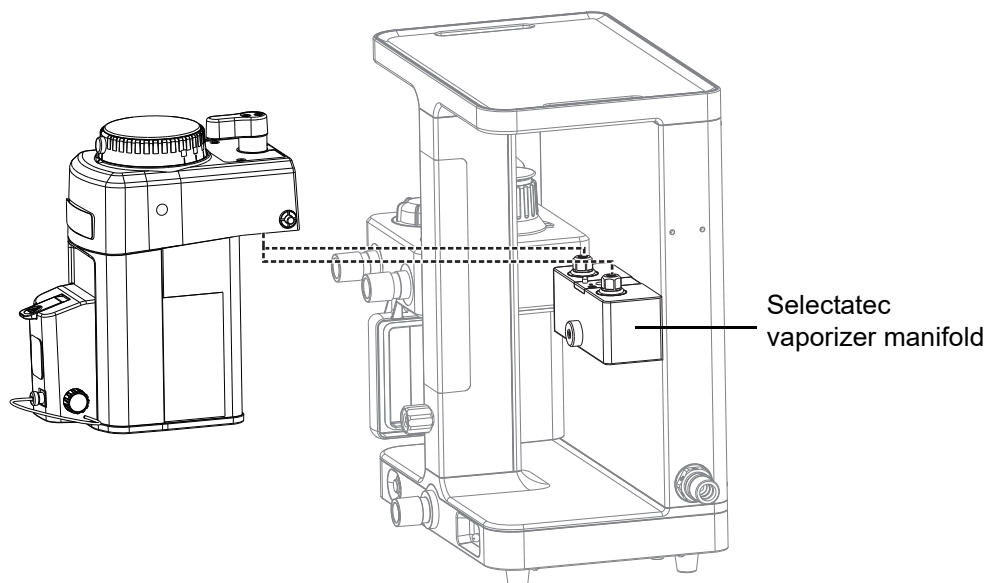
3.4 Installing the Anesthesia Vaporizer

NOTE:

- This section applies only to the anesthesia machines with Selectatec vaporizer manifold.
 - If the vaporizer is incompatible with the anesthesia machine, the performance of the anesthetic agent in the vaporizer will be degraded.
-

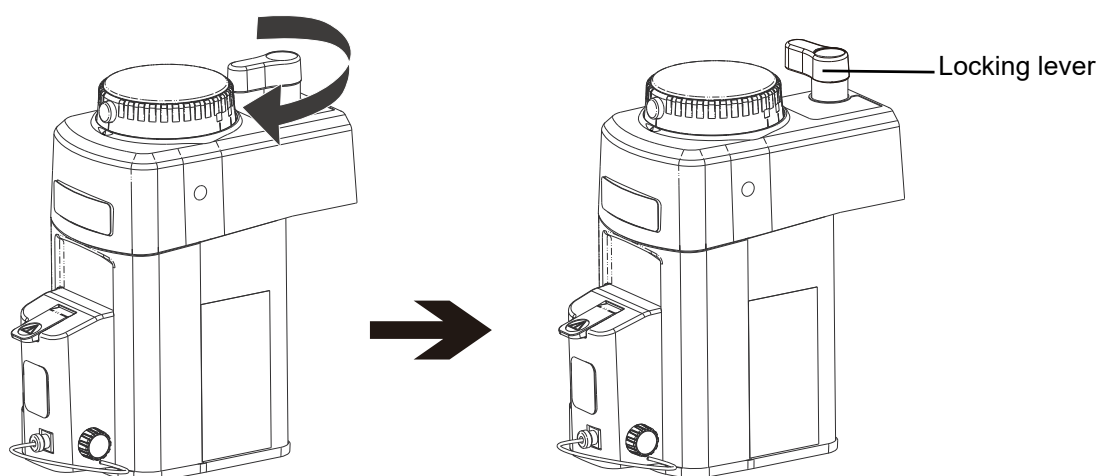
Perform the following procedure:

1. Mount the vaporizer onto the Selectatec vaporizer manifold.



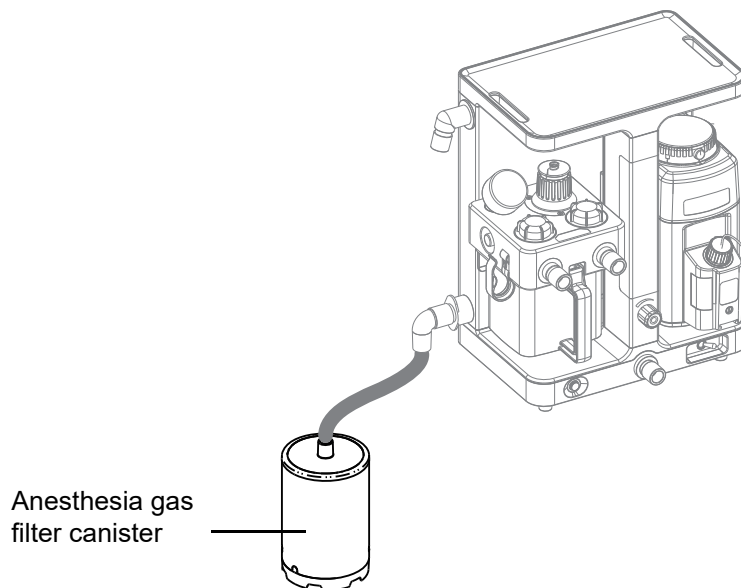
2. Push down and turn the locking lever to the position as shown in the right figure below, so as to lock the vaporizer in horizontal position.

If the vaporizer is not in the horizontal position, reinstall it. In case of reinstalling the vaporizer, try to lift each vaporizer straight up off the Selectatec vaporizer manifold rather than tilting. Do not rotate the vaporizer on the Selectatec vaporizer manifold.



3.5 Installing the Waste Gas Disposal System

3.5.1 Installing the Anesthesia Gas Filter Canister

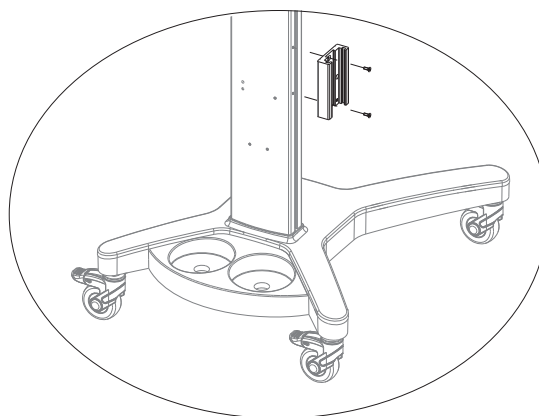


Connect the anesthesia gas filter canister to the gas outlet of the anesthesia machine with a conversion connector and a pipe.

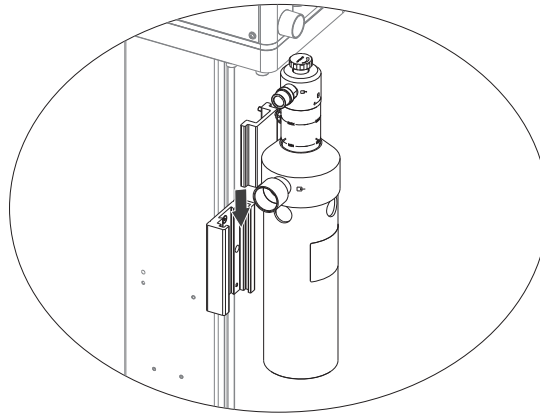
3.5.2 Installing AGSS

Perform the following procedure:

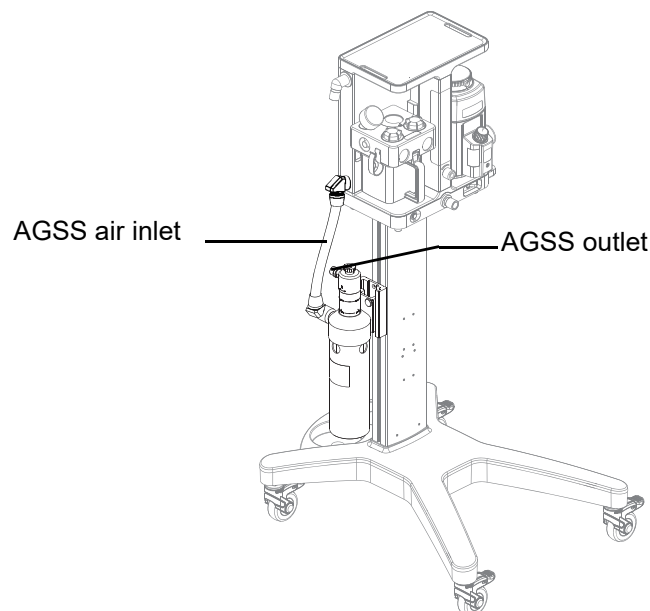
1. Use two M4x12 cross recessed countersunk head screws to mount the AGSS fixing plate onto the column of the high-configuration trolley.



2. Mount the AGSS system already equipped with hook onto the AGSS fixing plate.



3. Connect the AGSS air inlet to the gas outlet of the anesthesia machine through the transfer tube.



4. Connect the AGSS outlet to the hospital's waste gas disposal system by using the AGSS active scavenging hose.

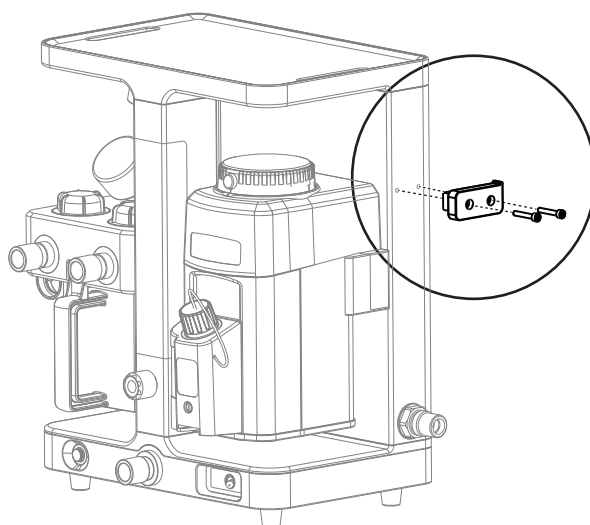
3.6 Installing the Bain Block

NOTE:

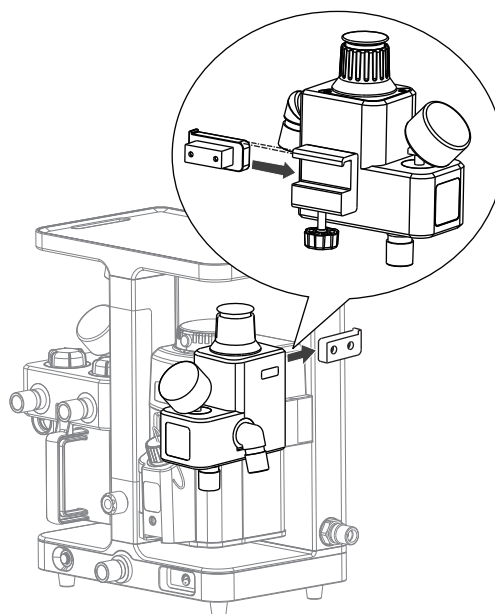
For details about the Bain Block, refer to the *Bain Block Instructions For Use*.

Perform the following procedure:

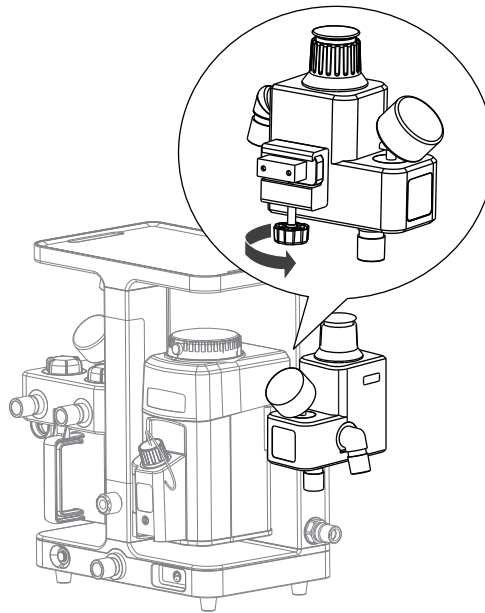
1. Remove the screw hole overlay of the Bain Block on the anesthesia machine.
2. Use two M4x25 hexagon socket screws to fix the fixing bracket onto the anesthesia machine.



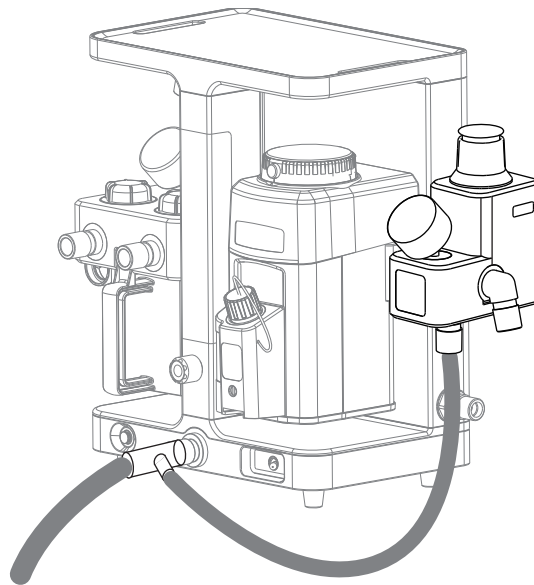
3. Align the installation slot on the Bain Block with the fixing bracket, and fix the installation slot to the fixing bracket.



4. Secure the Bain Block to the fixing bracket as shown in the figure below.



5. Use a disposable Bain circuit to connect the ACGO outlet and gas port of the Bain Block.



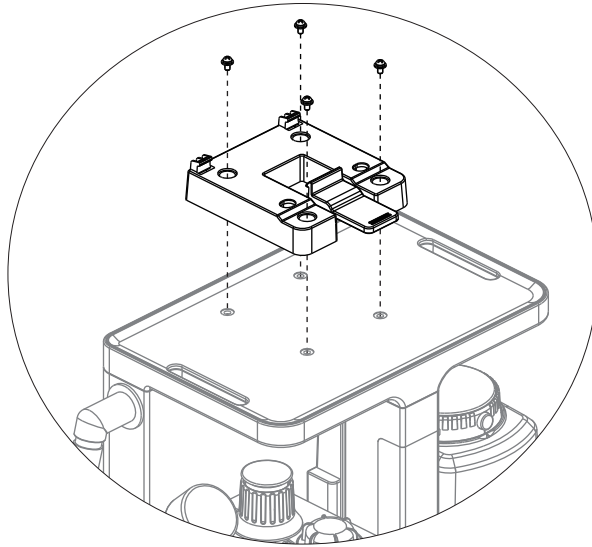
6. Connect the AGSS 3-way connector to the gas outlet of the anesthesia machine.
7. Connect the AGSS 3-way connector and the gas outlet of the Bain Block through a pipe.

3.7 Installing the Monitor

Perform the following procedure:

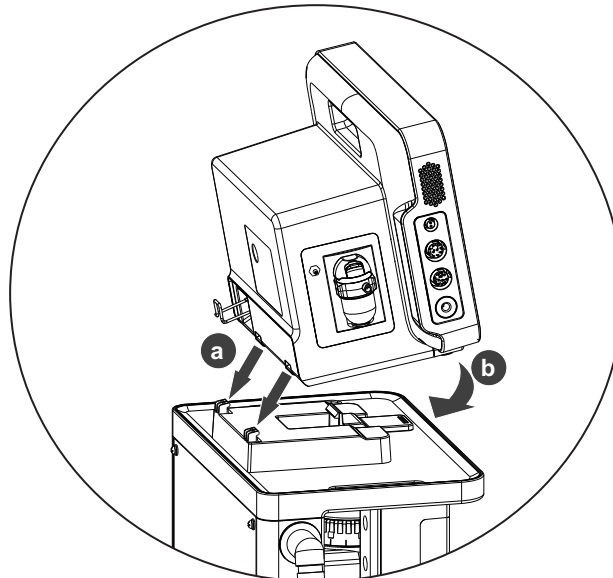
1. Remove four screw hole overlays on the top shelf of the anesthesia machine.
2. Install the monitor installation shelf.

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



3. Install the monitor.

- a. Align the 2 hooks of the monitor installation shelf and the 2 holes on the back of the monitor, and insert the monitor.
- b. Press the handle of the monitor installation shelf downwards so that the monitor falls off naturally and is locked to the monitor installation shelf.
- c. To unlock and remove the monitor, press the handle again, and vertically take out the monitor.



4 Preparations

4.1 Connecting the Gas Supply

Connect the gas supply inlet of the anesthesia machine to the gas supply and ensure that the gas pressure is between 280 kPa and 600 kPa (40 ~87 psi). If an oxygen generator is used, ensure that the maximum output pressure does not exceed 600 kPa.

4.2 Preuse Checkout

Perform the preuse checkout procedure before using the anesthesia machine.

Items	Checkout Description
Breathing system check	The breathing system is correctly connected, and the breathing tubes are undamaged.
	The O ₂ flush button is normal.
	CO ₂ absorbent canister check: • CO₂ absorbent is sufficient. • Change the CO₂ absorbent in time according to the manufacturer's instructions.
	Rotate the APL valve to the MIN position to completely open the APL valve.
Gas supply system check	• The gas supplies are connected correctly. • Breathing tubes are undamaged. • Gauges are undamaged and the pressure is normal.
	Flowmeter check.
	Flow-control valves are off.
Anesthesia vaporizer check	Anesthesia vaporizer is off.
	Anesthesia vaporizer is filled and the anesthetic agent does not exceed the max line.
	The filler cap of the anesthesia vaporizer is sealed.

Items	Checkout Description
Spare material check	Emergency equipment check.
	Airway maintenance equipment and tracheal intubation checks.
	The necessary emergency supplies are available.
Waste gas disposal system check	Replace the anesthesia gas filter canister if it is overweight the range recommended by manufacture.
	If the AGSS is configured, check whether the AGSS floater is between the MIN and MAX scale lines.
	NOTE: - Do not block the pressure compensation port of the AGSS during check. - Take the center of the floater as the reference when reading.

4.3 Preuse Tests

NOTE:

- Do not use the anesthesia machine if a failure occurs. Please contact the Customer Service Department or your local distributor.

In daily operation, the recommended test scenarios are as follows:

- Every day before the first animal:
 - Pipeline test
- Before using the anesthesia machine on each animal:
 - Manual circuit leak test
 - Breathing system test

4.3.1 Manual Circuit Leak Test

Before using the anesthesia machine on each animal, after replacing the CO₂ absorbent or breathing tubes, manual circuit leak test should be performed.

- Connect the reservoir bag to the manual bag connector.
- Ensure that the Y-piece and flow meter are closed.
- Turn the APL valve control knob to adjust the pressure to 30 cmH₂O.
- Hold down the O₂ flush button to make the reading of the airway pressure gauge between 15 cmH₂O and 25 cmH₂O.
- Release the O₂ flush button. Observe the airway pressure gauge and ensure that the reading drop does not exceed 10 cmH₂O within 15s.

4.3.2 Breathing System Test

WARNING

- Foreign objects in the breathing system will block the air flow to an animal. This can cause injury or death. Ensure that there is no leak test plugs or other foreign objects in the breathing system.
 - Do not use a test plug that is small enough to fall into the breathing system.
-

Test for Inspiratory Check Valve and Expiratory Check Valve

Perform the following procedure:

1. Connect the Y-piece breathing circuit to the breathing system.
2. Connect the reservoir bag to the reservoir bag connector and the animal end of the Y-piece breathing circuit respectively.
3. Turn the APL valve control knob to adjust the pressure to 70 cmH₂O.
4. Hold down the O₂ flush button to fill the reservoir bag.
5. Press the reservoir bag and check the valves in the breathing system are operating normally.
 - Inspiratory check valve: if the inspiratory check valve opens during inspiration and closes at the start of expiration, then the inspiratory check valve is operating normally.
 - Expiratory check valve: if the expiratory check valve opens during expiration and closes at the start of inspiration, then the expiratory check valve is operating normally.

APL Valve Test

Perform the following procedure:

1. Connect the reservoir bag to the reservoir bag connector.
2. Connect the Y-piece breathing circuit to the leak test port.
3. Turn the APL valve control knob to adjust the pressure to 30 cmH₂O.
4. Set the O₂ flow to 3 L/min.

Ensure that the reading of the airway pressure gauge ranges from 20 to 40 cmH₂O.
5. Pull the APL valve and observe the reading on the airway pressure gauge to verify that the pressure can reach to 50 to 70 cmH₂O.
6. Adjust the APL valve to the MIN position.

Ensure that the reading of the airway pressure gauge does not exceed 5 cmH₂O.
7. Set the O₂ flow to a minimum value.

Ensure that the reading of the airway pressure gauge does not decrease below 0.

4.3.3 Gas Supply Test

Perform the following procedure:

1. Connect the O₂ pipeline to the gas supply inlet of the anesthesia machine. Then, turn on the gas supply.
2. Adjust the flowmeter control knob to a medium level of the measurement range.

Ensure that the readings of each pressure gauge are within the range of 280 to 600 kPa.

4.4 Adding the Anesthetic Agent

WARNING

- Only fill the anesthesia vaporizer with the anesthetic agent specified on it. Before use, check the name of anesthetic agent and color mark on the anesthesia vaporizer and the anesthetic agent bottle. Sevoflurane is yellow while Isoflurane is purple.
 - Stop using the anesthesia vaporizer immediately which has been filled or partly filled with the wrong anesthetic agent or other substance to prevent danger to health. If this occurs, mark the anesthesia vaporizer for incorrect filling and contact the Customer Service Department or your local distributor.
 - Significant quantities of anesthetic agent vapor may escape if the control dial does not return to “0” position.
-

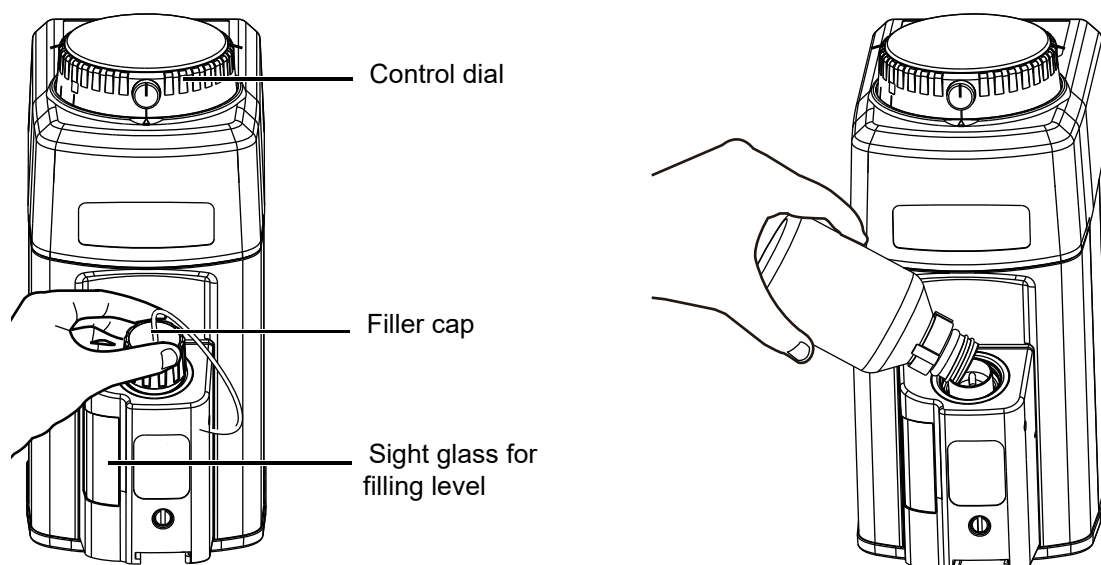
CAUTION

It is necessary to wait at least 5s after setting the control dial to “0” position before opening the anesthesia vaporizer. This allows the pressure to balance and prevents fresh gas and anesthetic agent vapor escaping from the vaporizer.

After filling for the first time, wait 15 minutes for the dry wicks inside to become saturated. Check the following items before filling the anesthetic agent:

- Check the anesthesia vaporizer for damage.
- Set the control dial to “0” (off) position.
- Observe expiry date of the anesthetic agent.

4.4.1 Pour Fill System



Perform the following procedure:

1. Set the control dial to “0” (off) position.
2. Rotate the filler cap slowly anticlockwise to discharge the pressure in the anesthesia vaporizer.
3. Remove the cap of the anesthetic bottle, and pour the anesthetic agent into the anesthesia vaporizer slowly.

Check the filling level on the sight glass during filling. The filling level must not exceed the maximum mark, or there is a risk of incorrect output concentration.

If the maximum mark has been exceeded, the anesthetic agent will flow out. Please drain the excess liquid until the level drops below the maximum mark.

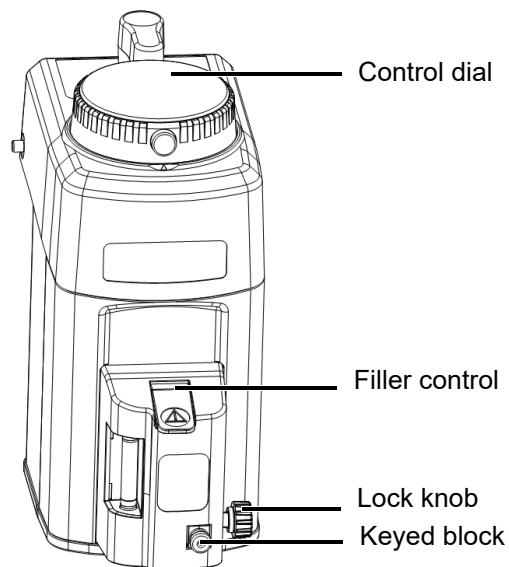
4. Tighten the filler cap clockwise.

If this is not done properly, fresh gas and anesthetic agent may escape when the vaporizer is switched on next time.

4.4.2 Key Filler System

⚠ CAUTION

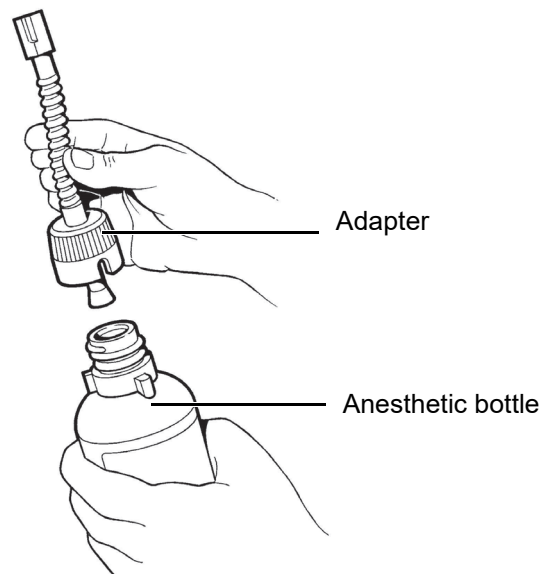
If the connection between the filling adapter and the anesthetic agent bottle is not tight, the anesthetic agent may escape.



Perform the following procedure:

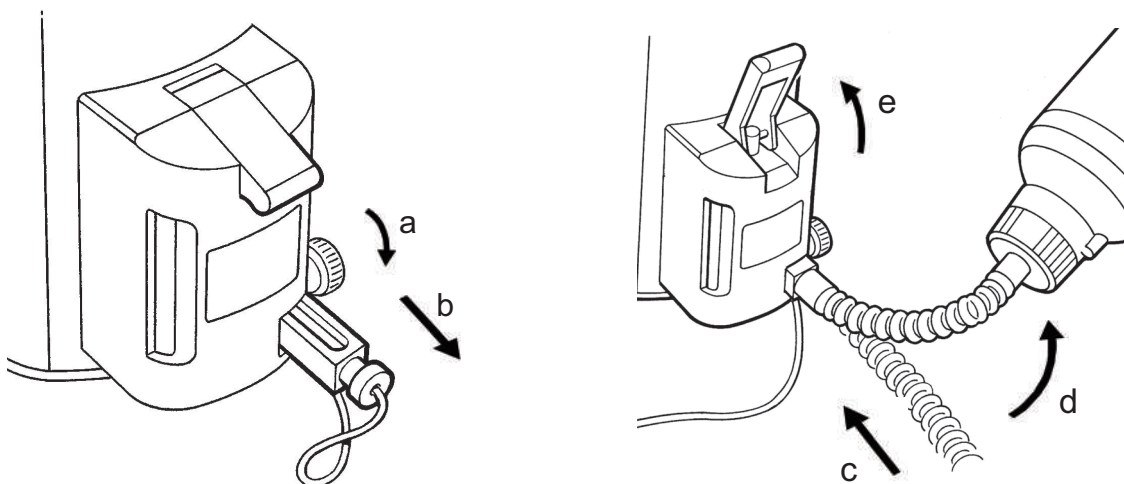
1. Set the control dial to “0” (off) position.
2. Attach the keyed filler adapter.

Attach the Keyed Filler adapter to the bottle. Tighten the adapter to ensure an airtight joint, which must be maintained throughout the filling operation.

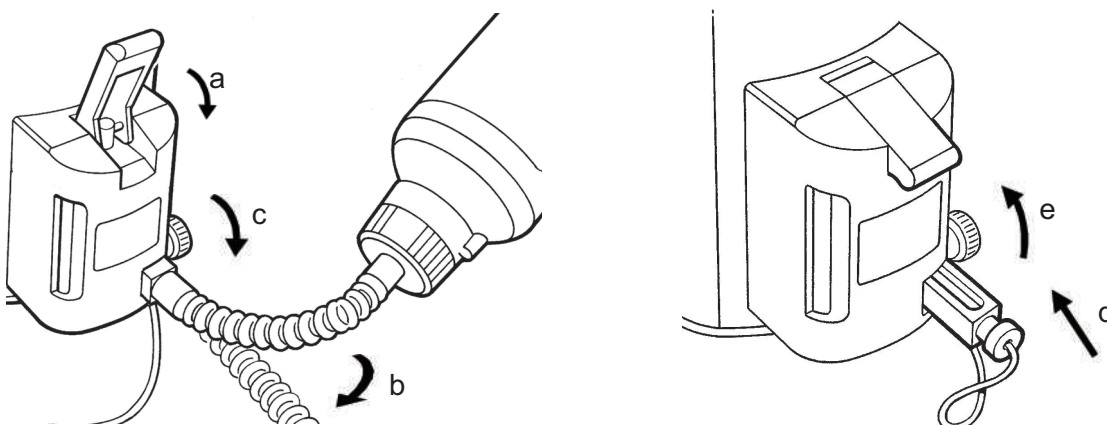


3. Fill the anesthetic agent.
 - a. Loosen the lock knob.
 - b. Pull the keyed block out.
 - c. Insert the keyed end of the bottle adapter fully into the vaporizer receiver. Tighten the lock knob to secure the adapter.

- d. Raise the bottle above the filler.
- e. Open the filler control and allow the liquid to flow into the anesthetic vaporizer until the upper mark is reached on the filler block window.



4. Perform the following procedure after filling completed.

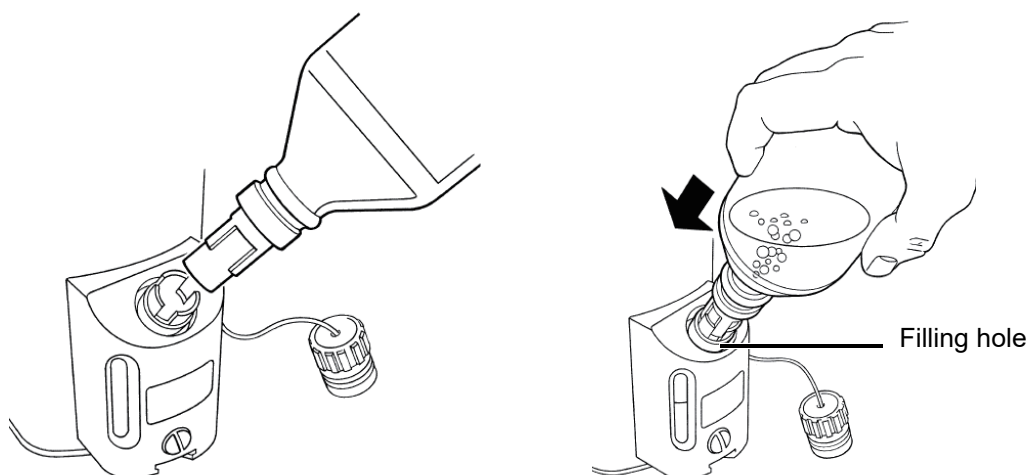


- a. Lower the filler control.
- b. Lower the bottle below the level of the filler and allow the liquid in the bottle adapter to flow back into the bottle.
- c. Loosen the lock knob and remove the bottle adapter from the receiver.
- d. Reinstall the keyed block.
- e. Tighten the knob.

4.4.3 Quik-Fil System

NOTE:

The highest liquid level of the anesthesia agent is 250 mL and the lowest of it is 35 mL.



Perform the following procedure:

1. Set the control dial to “0” (off) position.
 2. Remove the protective cap from the anesthetic agent bottle, checking that the anesthetic agent bottle and filler mechanism are not damaged.
 3. Remove the vaporizer filler block cap and insert the bottle nozzle.
 4. Rotate the bottle to align the bottle filler keys with the slots in the vaporizer filler.
 5. Press the anesthetic agent bottle firmly into the vaporizer filler against the spring valve assembly
- Note the liquid level in the vaporizer window. Allow the liquid to flow into the vaporizer until the maximum level mark is reached, paying continuous attention to the level in the window and the air return bubbles flowing into the bottle.
6. Release the anesthetic agent bottle when the anesthetic vaporizer is full and the continuous stream of bubbles ceases.
 7. Pull out the anesthetic agent bottle from the vaporizer filler. Replace the vaporizer filler block cap and the protective cap on the agent bottle.

4.5 Drain the Anesthetic Agent

WARNING

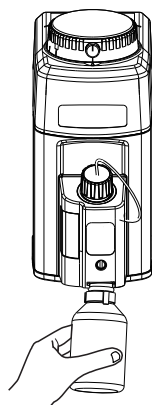
- Handle, store, or dispose the drained anesthetic as drug. Otherwise, anesthetic agent may be misused.
 - After the drainage is completed, please tighten the filler cap and drainage knob; otherwise, anesthetic agent may escape when the anesthetic vaporizer is turned on next time.
-

NOTE:

- Do not reuse anesthetic agent drained from the vaporizer.

- During drainage, do not make an anesthetic agent bottle full; otherwise, anesthetic overflow may occur.

4.5.1 Pour Fill System



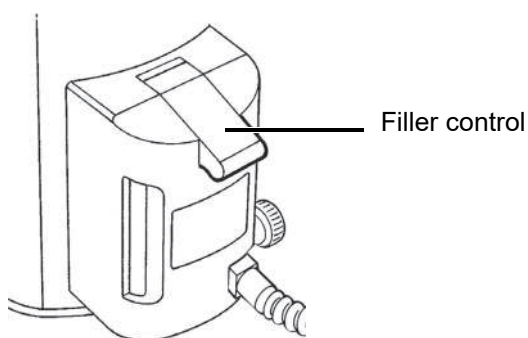
Perform the following procedure:

1. Set the control dial to “0” (off) Position.
2. Select the correct anesthetic agent bottle and place it under the drainage outlet.
3. Slowly rotate the filler cap counterclockwise.
4. Drain the anesthetic agent until no anesthetic agent is visible in the window and no anesthetic agent flows into the bottle.

If necessary, turn off the drainage knob and drain the anesthetic agent into another anesthetic agent bottle.

5. After all anesthetic agent is drained, turn off the drainage knob clockwise. Tighten the cap of the anesthetic agent bottle. Additionally, tighten the filler cap.

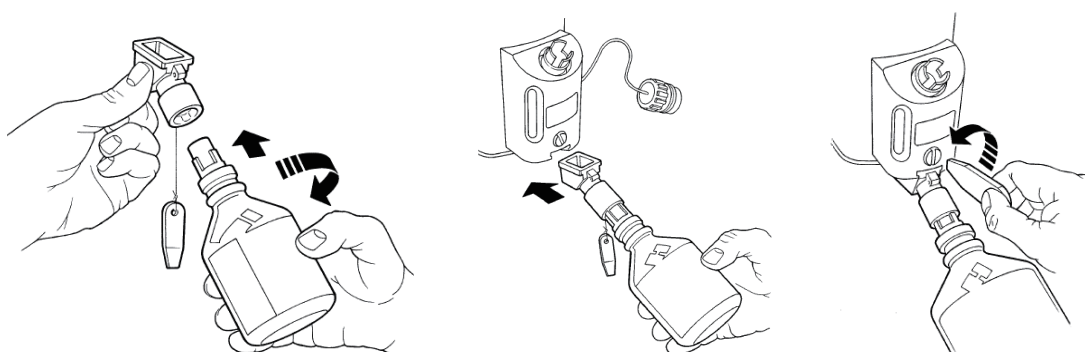
4.5.2 Key Filler System



Perform the following procedure:

1. Put the anesthetic agent bottle under the anesthetic vaporizer. For detailed operations, see “4.4.2 Key Filler System”.
2. Open the filler control.
Allow the anesthetic agent to flow into the anesthetic agent bottle until all the anesthetic agent is drained.
3. Lower the filler control.
4. Loosen the lock knob and remove the bottle adapter from the receiver.
5. Reinstall the keyed block and tighten the knob.

4.5.3 Quik-Fil System



Perform the following procedure:

1. Insert the bottle nozzle of an empty bottle into the drain funnel. Rotate the bottle to align the bottle filler keys with the index slots in the drain funnel, and screw the drain funnel onto the empty bottle.
2. Remove the vaporizer filler block cap.
3. Fully insert the drain funnel into the keyed drain slot, and unscrew the drain plug.
Continue to drain the anesthetic agent in the anesthetic vaporizer until empty.
4. Tighten the drain plug, and pull out the drain funnel.
5. Unscrew the drain funnel from the anesthetic agent bottle.
6. Refit the bottle cap and the vaporizer filler block cap.

5 Operations

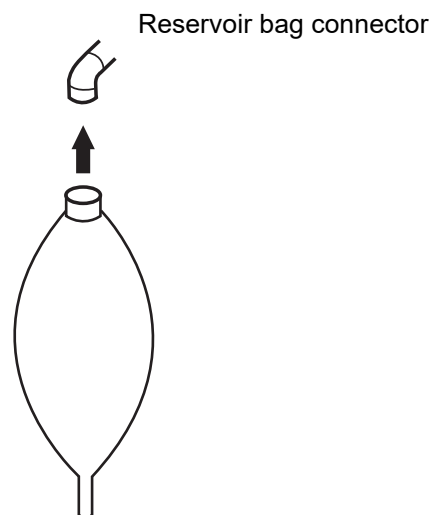
5.1 Manual Ventilation

WARNING

Set the APL valve to a value suitable according to the animal's condition when performing the manual ventilation.

5.1.1 Connecting the Reservoir Bag

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

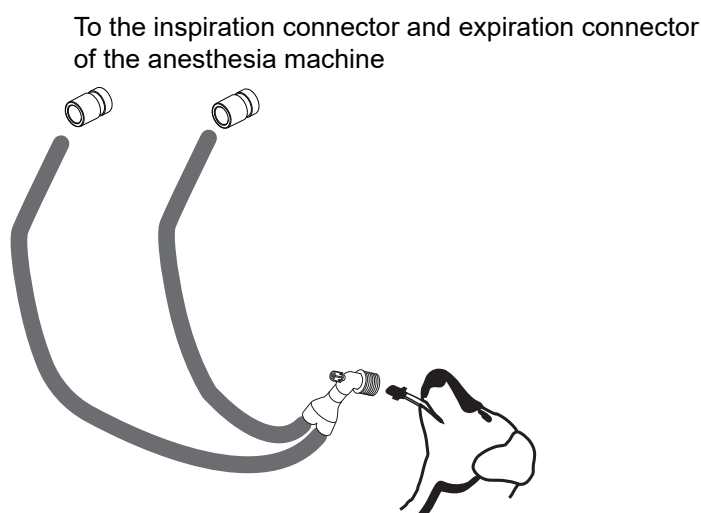


5.1.2 Connecting the Breathing Tube

CAUTION

When moving the animal, ensure that the end of the Y-piece tube is not pulled or kinked.

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.



5.1.3 Setting the Gas Flow

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

5.1.4 Setting the Vaporizer Concentration

⚠ WARNING

- Do not cut off fresh gas before the anesthetic vaporizer is switched off.
- Do not start the anesthetic vaporizer when there is no fresh gas flow. Otherwise, anesthetic agent vapor at a high concentration can enter the anesthesia machine's pipelines and ambient air, causing harm to people and animals.

NOTE:

- The barometric pressure may differ from the calibration pressure of the anesthetic vaporizer. This may cause an inaccurate output of the anesthetic agent. The operator should continuously monitor the concentration of anesthetic agent during its use to determine if the output concentration is accurate.
- Jerky movements or tilting at an angle of more than 30° can cause incorrect output concentration.
- If the anesthetic vaporizer is not going to be used for up to 6 months, then the anesthetic agent inside the anesthetic vaporizer should be drained.
- Check the liquid level of the vaporizer. If the liquid level is below the min warning line, it needs to add anesthetic agent.

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

5.1.5 Setting the APL Valve

In the manual ventilation mode, APL valve is used to adjust the peak pressure of the breathing system and gas volume of the reservoir bag. When the pressure in the breathing system reaches the preset limit of the APL valve, the APL valve will be opened to release the excessive gas.

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.

5.2 Performing Non-Rebreathing Ventilation

In the non-rebreathing ventilation mode, fresh gas is delivered to the external artificial respiration system through the ACGO (Auxiliary Common Gas Outlet) separate outlet.

Perform the following procedure:

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

5.3 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.

6 Maintenance

6.1 Cleaning and Disinfection

CAUTION

- Prevent liquid from penetrating into the equipment casing.
- Do not use abrasive cleaning agents, such as steel wool, silver polish and cleaning agents. The pH value of cleaning solutions must be within the 7.0–10.5 range.
- Cross infection may be caused if the anesthesia machine is not disinfected in a timely manner after use.
- Ultraviolet radiation is harmful to human body. Do not stay in the room during the radiation.

NOTE:

- Clean and disinfect the anesthesia machine as needed before the first use of the anesthesia machine.
- During cleaning and installation, inspect the parts and seals for damage. Replace and repair them if necessary.

During cleaning and disinfection, ensure the applicability and correctness of the cleaning and disinfection methods for relevant components. Recommended cleaning agents and disinfectants are as follows:

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

6.1.1 Cleaning and Disinfecting the Exterior of the Anesthesia Machine

Cleaning

Perform the following procedure:

1. Use wet cloths soaked in alkalescent cleaning agents to wipe the surface of the anesthesia machine. For example, water or soap-suds.
2. Use dry and lint-free cloths to remove the residual cleaning solution.

Disinfection

Perform the following procedure:

1. Clean the surface of the anesthesia machine by referring to the above procedure.
2. Select any of the following disinfection methods:
 - Use moderately efficient disinfectant: use wet cloth soaked in moderately efficient disinfectant (75% ethanol) to wipe the surface of the anesthesia machine.
 - Use UV lamp for sterilization: see the regulations in your hospital or institution. Place the anesthesia machine at the lamp for at least 60 min.

6.1.2 Cleaning the AGSS Transfer and Receiving System

Perform the following procedure:

1. Remove the AGSS, its transfer hose and AGSS filter from the anesthesia machine.
2. Clean the outer surface of the AGSS and transfer hose with a soft, lint-free cloth and a recommended cleaning agent. Allow to dry thoroughly.
3. Inspect the AGSS filter, shake it over a waste container, and clean it when necessary. If the filter must be replaced, dispose of the old filter in accordance with local disposal regulations.

6.2 Maintenance Schedule

WARNING

When the anesthesia machine is being used on an animal, do not maintain the anesthesia machine.

NOTE:

After the anesthesia machine is repaired and maintained, perform the preparations.

The schedule provides the minimum intervals based on typical usage of 2000 hours per year. The anesthesia machine should be maintained more frequently if it is used longer than the typical duration every year.

Minimum Maintenance Frequency	Maintenance Items	Maintenance Operations
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 button function.
	Exterior 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 are damaged; check whether the inspiratory and expiratory valve is damaged or coiled.
Biweekly	Anesthesia vaporizer	Drain the vaporizers.
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	- 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.
	AGSS	Replace a new float if float is damaged.
		The float is tacky. Turn over the AGSS and check if the float moves up and down freely.
		If the float is rising slowly, possible reason and solution are as follows: - The pump rate is less than the flow required for proper operating of the AGSS. Adjust the pump rate to the normal flow rate. - The filter may be blocked. Clean the filter. If it is a must to replace the filter, please follow local regulations to dispose of discarded filters.

6.3 Checking the Vaporizer Output Concentration

Check the vaporizer output concentration weekly when continuous monitoring is not available.

1. Preparations.
 - a. Fill the vaporizer: at least half full between minimum and maximum marks.
 - b. Use a valid anesthetic agent monitor. Connect the monitor to the common gas outlet of the anesthesia machine. Make sure that the connections are leak-tight.
 - c. Connect the waste gas scavenging system and start operation.
 - d. Set the monitor to anesthetic agent being used and to continuous measurement.
 - e. Set air flow of 2 L/min on the anesthesia machine. Use O₂ if air is not available.
2. Measuring.
 - a. Check the output concentration at “0” position, 0.4, 1, 2, 3, 5, and MAX in ascending order.
 - b. Correct measured values according to the carrier gas.
 For air check, no correction.
 For O₂ check, reduce the measured values as follows:

Measured value vol%	Correction
<1	-0.05
1.0-2.0	-0.10
2.0-4.0	-0.20
5.0-8.0	-0.30

If the data displayed is in % partial pressure, no correction is made. If it is in vol.%, it needs to be converted to partial pressure. The formula is:

$$\text{Concentration (\% partial pressure)} = \frac{\text{Measured value (vol.\%)} \times \text{atmospheric pressure (kPa)}}{101.3 \text{ kPa}}$$

3. Determine the accuracy range.
 $\pm 0.25\text{vol.\%}$ or $\pm 20\%$ of the set value, whichever is greater.
4. Test result.
 If the corrected measured value is not within the permissible range of output concentration, do not use the vaporizer and check the vaporizer by trained service personnel.
5. After test.
 - a. Set the control dial to “0” position to switch off the vaporizer.
 - b. Switch off Air or O₂ flow on the anesthesia machine.

7 Accessories

WARNING

Use the accessories specified in this manual only. Using other accessories may lead to inaccurate measured values or equipment faults.

CAUTION

- If you find any damage to the packaging or accessories, do not use the accessories.
- Disposable accessories shall be used only once. Repeated use may lead to performance degradation or cross-infection.
- The anesthesia machine and its accessories, at the end of their service lives, shall be disposed of in compliance with the guidelines regulating the disposal of such products and in accordance with local regulations for contaminated and biologically hazardous items.

Category	Material Description
Vaporizer adapter	Key filler adapter for filling the vaporizer, Isoflurane
	Key filler adapter for filling the vaporizer, Sevoflurane
Vaporizer adapter	Quik-fil adapter for filling the vaporizer, Sevoflurane
	Quik-fil Drain Funnel adapter for draining the vaporizer, Sevoflurane
Pipeline	Disposable Accessory Kit, Large, Vet
	Disposable Accessory Kit, Small, Vet
	Disposable Coaxial Circuit, 1.5M, Vet
Reservoir Bag	Breathing Bag 0.5L without Latex, Vet
	Breathing Bag 1L without Latex, Vet
	Breathing Bag 2L without Latex, Vet
	Breathing Bag 3L without Latex, Vet

Category	Material Description
ACGO	T-piece system type
	Mapleson C type
	Bain block
	Bain circuit, disposable, 1.2M, Vet
Gas supply hose	O ₂ supply hose, British standard, NIST, 5m, 34I-OXY-BS/NS-5
	O ₂ supply hose, Germany standard, NIST, 5m, 34I-OXY-GS/NS-5
	O ₂ supply hose, Australian standard, NIST, 5m, 34I-OXY-SIS/NS-5
	O ₂ supply hose, French standard, NIST, 5m, 34I-OXY-FS/NS-5
Gas supply hose	O ₂ supply hose, US standard, BS, DISS, 5m, 34U-OXY-BS/DS-5
	O ₂ supply hose, US standard, Chemetron, DISS, 5m, 34U-OXY-CH/DS-5
	O ₂ supply hose, US standard, P-B, DISS, 5m, 34U-OXY-PB/DS-5
	O ₂ supply hose, US standard, Ohmeda, DISS, 5m, 34U-OXY-OH/DS-5
AGSS	AGSS kit, high flow, low vacuum
	AGSS kit, low flow, high vacuum
	AGSS low flow receiving hose, from AGSS assembly to hospital's waste gas disposal system
	AGSS high flow receiving hose, from AGSS assembly to hospital's waste gas disposal system
	AGSS waste gas transfer hose, from main unit to AGSS assembly
	AGSS Assembly, low-flow, high vacuum
	AGSS Assembly, high-flow, low vacuum
	Anesthesia gas filter canister
	Adapter for AGSS, S type, 30F, 22M
	Adapter for AGSS, L type, 22F, 22M
	Disposable extension tube, 120cm
	Passive AGSS accessory kit
Oxygen generator	Oxygen generator installation package (NIST)
Trolley	Trolley assembly
Airway adapter	Adapter, Airway, ELBOW, Large, Vet
	Adapter, Airway, STRT, Large, Vet
	Adapter, Airway, STRT, Small, Vet
	Low dead space adapter, 2.0-3.5mm, Vet
Bracket	Infusion pump holder
	Monitor bracket kit
	Wall bracket

Category	Material Description
Others	Small animal anesthesia masks kit
	Cuffed endotracheal tubes kit, Vet
	Sundries basket kit
	Hose clamps: size 9.5-12mm, galvanized

A Product Specifications

A.1 Safety Specifications

Item	Description
Degree of protection against harmful ingress of water	IPX1
Disinfection and sterilization methods	Recommended by manufactures
Degree of protection against hazards of explosion	Ordinary equipment, without protection against explosion; not for use with flammable anesthetics
Degree of mobility	Mobile (trolley), portable (tabletop), fixed (wall-mounted)

A.2 Environmental Specifications of the Main Unit

Item	Temperature (°C)	Relative humidity (non-condensing)	Barometric pressure (kPa)
Operating conditions	10°C to 40°C	15% to 95% (non-condensing)	70 kPa to 106.7 kPa
Storage conditions	-20°C to 60°C	10% to 95% (non-condensing)	50 kPa to 106.7 kPa

A.3 Physical Specifications

A.3.1 Main Unit

Main Unit (Placing on the Tabletop)

Item	Description
Dimensions	≤ 400 mm x 400 mm x 300 mm (Height × Width × Depth)
Standard weight	≤ 20 kg (Excluding the anesthesia gas filter canister; including accessories)
Maximum weight	≤ 25 kg (Including the anesthesia gas filter canister, monitor (declared weight 5 kg), AGSS and accessories)

Main Unit (Installing on the Trolley)

Install the Main Unit on the Standard-configuration Trolley

Item	Description
Dimensions	≤ 1300 mm x 460 mm x 510 mm (Height × Width × Depth)
Standard weight	≤ 23 kg (Excluding the anesthesia gas filter canister; including accessories)
Maximum weight	≤ 32 kg (Including the anesthesia gas filter canister, monitor (declared weight 5 kg), AGSS and accessories)

Install the Main Unit on the High-configuration Trolley

Item	Description
Dimensions	≤ 1300 mm x 550 mm x 700 mm (Height × Width × Depth)
Standard weight	≤ 30 kg (Excluding the anesthesia gas filter canister; including accessories)
Maximum weight	≤ 40 kg (Including the anesthesia gas filter canister, monitor (declared weight 5 kg), AGSS and accessories)

A.3.2 Top Shelf

Item	Description
Dimensions	≤ 310 mm x 210 mm (Width × Depth)
Maximum weight	5 kg

A.4 Pneumatic Circuit System Specifications

A.4.1 Gas supply

Item	Description
Gas type	O ₂
Gas supply pressure range	280 kPa to 600 kPa (40 psi to 87 psi)
Input connector	NIST or DISS

A.4.2 Oxygen Control

Item	Description
O ₂ flush button	15 L/min to 25 L/min (Connect with the pipeline gas supply, and the gas supply pressure is 280 kPa)

A.4.3 Flowmeter

Item	Description
Flow range	0 L/min to 4 L/min

A.5 Breathing System Specifications

Interface

Item	Description
Reservoir bag connector	Coaxial 22 mm male/15 mm female conical connector
Inspiration connector	Coaxial 22 mm male/15 mm female conical connector
Expiration connector	Coaxial 22 mm male/15 mm female conical connector
Gas outlet	30 mm male conical connector

Airway Pressure Gauge

Item	Description
Range	-20 cmH ₂ O to 100 cmH ₂ O

APL Valve

Item	Description
Scope	0 cmH ₂ O to 70 cmH ₂ O

CO₂ Absorbent Canister

Item	Description
Volume	800 mL ± 100 mL

A.6 Anesthesia Vaporizer Specifications

Item	Description
Filling methods	Isoflurane (Pour Fill and Key Filler) Sevoflurane (Pour Fill, Key Filler and Quik-Fil)
Weight	6.0 kg ± 0.5 kg (Empty) 6.5 kg ± 0.5 kg (Full)
Filling volume	360 mL ± 60 mL (dry wick) 300 mL ± 60 mL (moist wick) 260 mL ± 60 mL (between the minimum and maximum marks)
Concentration range	Isoflurane: 0 vol.% to 6 vol.% Sevoflurane: 0 vol.% to 8 vol.%
Concentration accuracy range	± 0.25vol.% or ± 20% of the set value, whichever is greater.

A.7 AGSS Specifications

A.7.1 Active AGSS

Type of the applicable disposable system	High flow	Low flow
Extract flow	75 L/min to 105 L/min	25 L/min to 50 L/min

A.7.2 Passive AGSS

Item	Description
Interface type	30 mm male conical connector

B Abbreviations

Abbreviation	In Full
AGSS	Anesthesia Gas Scavenging System
ACGO	Auxiliary Common Gas Outlet
APL	Airway Pressure Limit
CO ₂	Carbon dioxide
O ₂	Oxygen
Iso	Isoflurane
Sev	Sevoflurane

