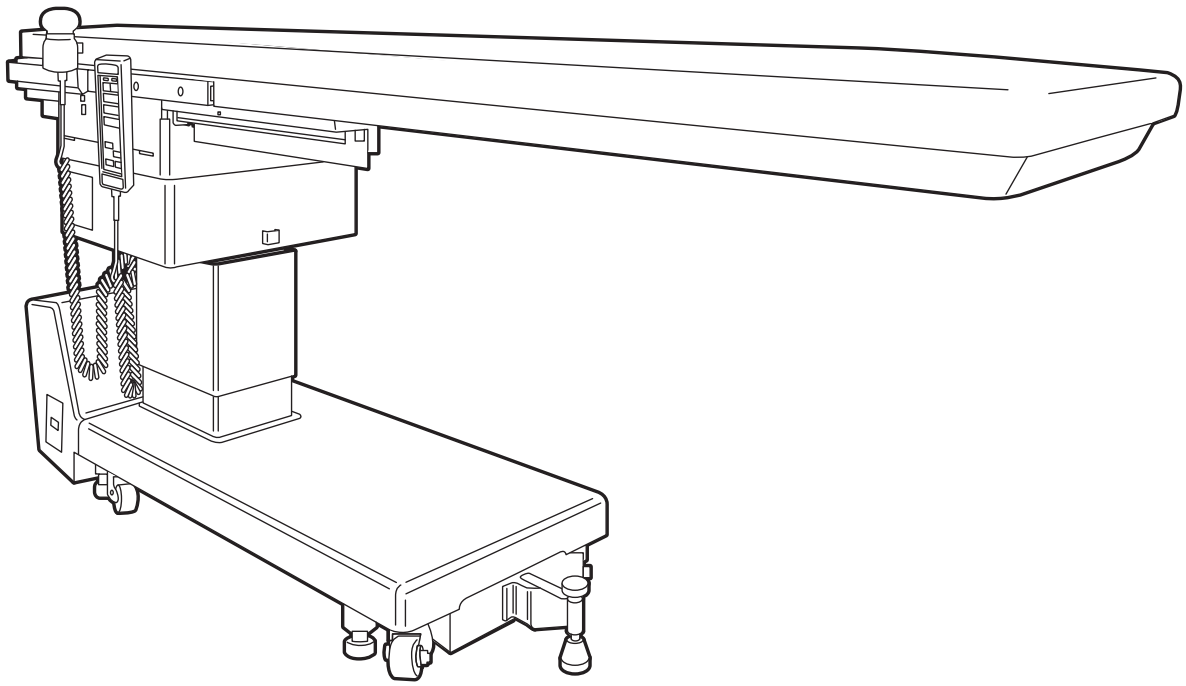
CE

MIZUHO

Operating Table VACB-3006B
Operator's Manual



This operating table is designed for medical operations. Using this operating table for any other purpose other than this intended use may cause serious injury.
The operator and the person in charge of the maintenance of this operating table must read this operator's manual thoroughly and understand the contents before operating, inspecting, adjusting and maintaining it.
Keep this manual for reference in a place where is readily accessible.

MES-CK18-480-10EN Ver.6 2024-12-25

Table of contents

1. Introduction

1.1 This manual

This manual contains information for safely and effectively using this product.
Before operating this product, read this manual thoroughly to understand how to operate and inspect the product.
Failure to follow these instructions could lead to serious injury.

The safety information is categorized as per the following so that the contents of warnings and cautions, and the details of warnings and cautions which are labeled on the product may be comprehended.

WARNING	If this indication is ignored and the product is incorrectly used, serious injury or death may result.

CAUTION	If this indication is ignored and the product is incorrectly used, injury and/or damage to property may result.

NOTE

This notice notes additional information on the product's functions.

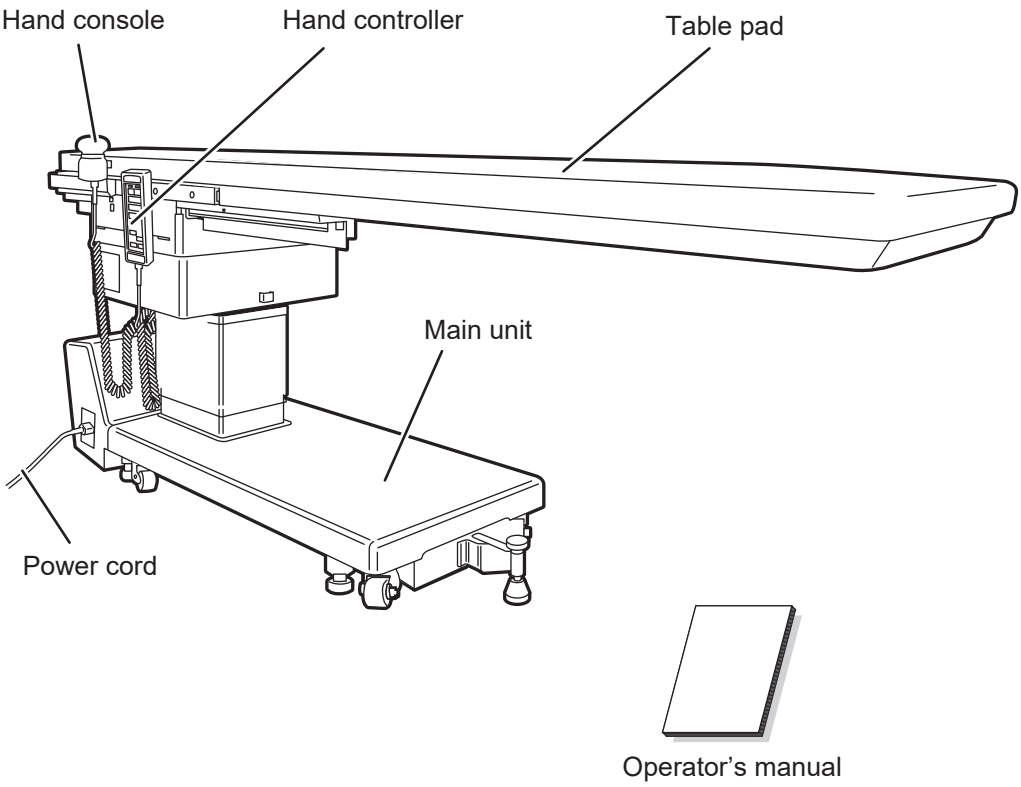
The warning and caution notices on this manual relating to operating and inspecting, apply to the intended use (surgical operations) of this product.
If the product is used for purposes other than surgery, the user is responsible in regard to safety for performing operations and inspections which are not contained in this manual.

1.2 Intended use and this product

This product is the operating table on which a patient is placed for surgical operations.
The product is intended to support a patient during surgical operations.
In conforming with the objectives of surgery, the product is equipped with features for adjusting its height, and for freely changing and setting the patient's body position.
The product uses both medical grade outlets and batteries as power sources.
This product is to be used by health care professionals, including but not limited to surgeons, nurses and biomedical technicians.

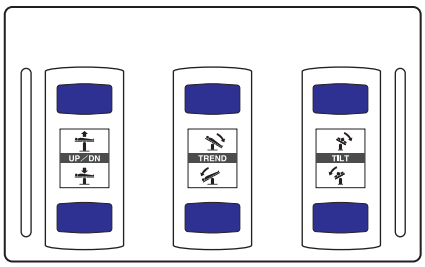
1.3 Accessories

■ Standard components and accessories

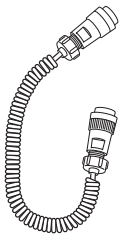


■ Optional parts

● Foot switch



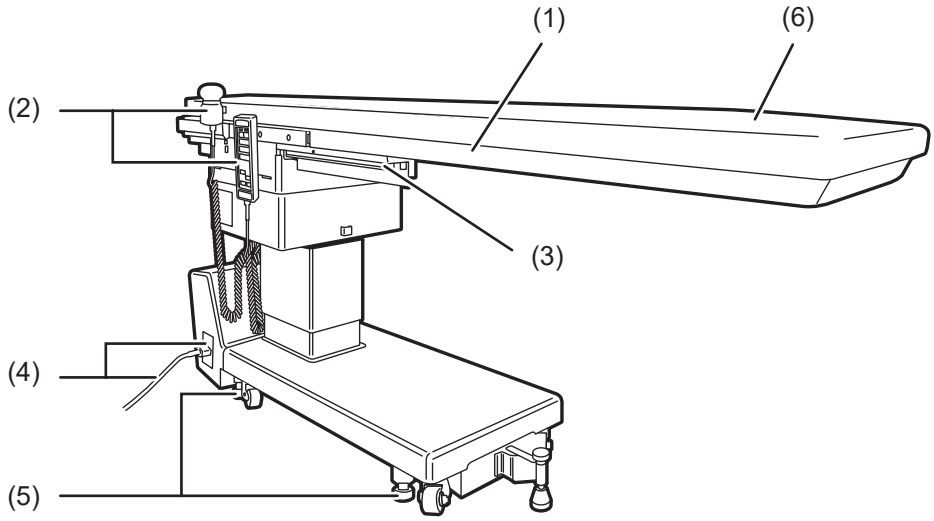
● Extension cable for hand controller



2. Safety precaution

2.1 Read thoroughly before using

In using this product, carefully read the following warnings and cautions, and make sure to observe them. Any serious incident that has occurred in relation to the device should be reported to the manufacturer and the competent authority in which the user and/or patient is established.



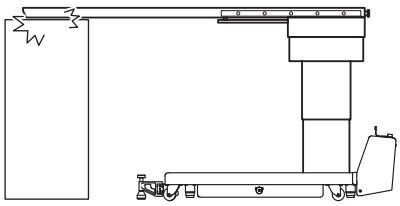
(1) Tabletop

WARNING

Do not sit or lean on the edge of the tabletop. The operating table may tip over resulting in injury.

CAUTION

Before lowering the table or placing it in a Trendelenburg position, check if there are any devices under the tabletop. If the tabletop comes in contact with devices and it is subjected to excessive force, the operating table may be damaged.



(2) Hand controller/Hand console

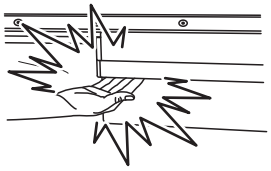
CAUTION

- Do not forcibly pull the cord of the hand controller or the hand console.
- Do not subject the hand controller or the hand console to strong shocks. They may get damaged.

(3) Frame/Guide rail

WARNING

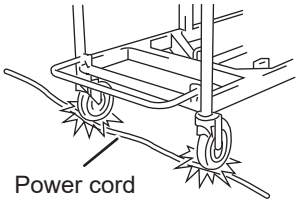
- Keep your hands away from the gap of the frame during the operation of the table. Otherwise you may get injured.
- Keep your hands away from the guide rail under the tabletop. Otherwise you may get injured.



(4) Power cord and power connector

WARNING

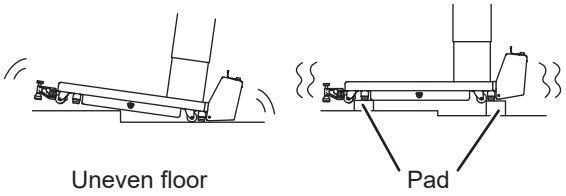
- Do not place any heavy objects on the power cord.
- Do not roll over the power cord with a castered device.
- Do not forcibly pull the power cord.
- Do not place any objects in the place where the power cord is to be unplugged from the medical grade outlet, which would obstruct it from being unplugged.
- Take waterproofing measures such as covering the power connector with a plastic sheet, etc. so that liquids do not infiltrate inside of the power connector. If liquids infiltrate inside of the power connector, it may cause fire or damage.



(5) Installation of the operating table

WARNING

- Do not install the operating table on an uneven floor.
- Do not place a pad under the base for raising the operating table. The operating table may tip over resulting in injury.



(6) Table pad

WARNING

Make sure to securely attach the table pads to the operating table so that they do not come off. The table pads may come off, and the patient may get injured.

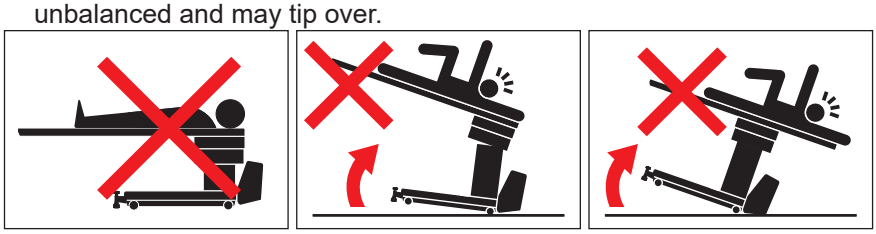
CAUTION

- Attach the table pads straight along the Velcro fastenings from the edges. Especially, attach long table pads while holding them with your hands so that the surfaces do not get wrinkled. If the table pads rise up or buckle, they may get deformed or damaged.
- Do not apply tape, etc. directly on the table pads. Otherwise, they may get damaged.
- Place and store the table pads in flat places. Leaning or bending may get deformed or damaged.
- Do not store operating table accessories or other medical devices, etc. on the table pads. Otherwise, they may get deformed or damaged.

■ Patient's position during surgical operation

WARNING

- Position the patient's body 10 mm (0.39 in) or more away from the metal side rail. The side rail may produce high temperatures due to the usage of electric scalpels, etc., which may result in a burn injury.
- Do not position the patient's head above the column during a Trendelenburg position or when sliding the table to the head side. Otherwise the operating table will become unbalanced and may tip over.



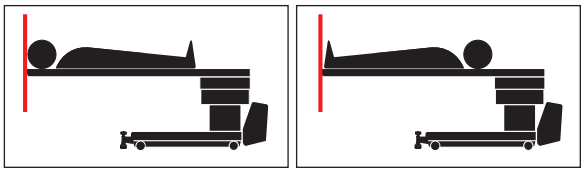
● Positioning the patient

Follow the steps below to position the patient.

1. Attach the accessory table pads onto the tabletop with their Velcro fastenings aligned with each other.

2. Put the patient on the table pads.

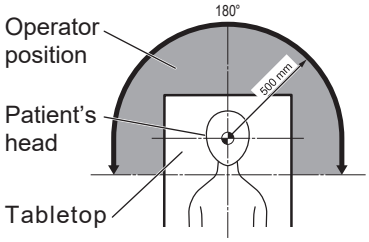
Make sure the patient's head or legs are placed to the edge of the tabletop as described in the pictures below.



3. Position the patient according to the purpose of the surgical operation.

CAUTION

Have the person who operates the operating table to operate it in a position where the emergency stop switch can be immediately pressed, and the patient's condition can constantly observed.



■ Other

WARNING

● **Prohibited**

- Do not disassemble and/or modify the operating table. Otherwise, malfunction may occur.

● **Patient position**

- When using the tabletop or accessories to secure a patient's body position, always observe the patient's condition. Being in the same position for long periods of time causes neuroparalysis or bedsores.

● **Other medical electrical equipment to be used together with the operating table**

- When using a high-frequency surgical equipment and/or a cardiac defibrillator etc. with the operating table, refer to their operator's manual provided by the manufacturers and observe the precautions and usage. Improper precautions and usage may cause the operator or the patient to get burned and/or devices to malfunction.
- When using medical electrical equipment etc. with the operating table, check that the operating table does not malfunction before using it. Electromagnetic interference may result in malfunctioning of the operating table.
- When performing CPR, slide the tabletop toward the leg side as far as it will go. Improper body position may make the table unstable and the patient may get injured.

● **When using with a C-arm X-ray machine**

- Read any documents or instruction manuals included with the C-arm X-ray machine to fully understand any influence that the machine may have on the operating table. The X-ray beam may be attenuated by the carbon top in the tabletop's materials.
- Make sure the C-arm X-ray machine does not come in contact with the table. Improper installation may obstruct operations or cause a malfunction.

● **Weight capacity**

- Do not apply loads which exceed the weight capacity (total of the patient and accessories)*. The operating table may not function, which may result in failures.
  * Elevation: 225 kg (500 lbs) / Operations other than elevation: 135 kg (300 lbs)

● **Preventive maintenance and inspections**

- Make sure to inspect and maintain the operating table before and after use. The operating table may require replacement of the parts due to significant wear, deterioration, and/or breakage depending on the usage period and frequency of use.
- For preventive maintenance and inspections, contact your distributor or MIZUHO directly.

● **Antistatic measure**

- Do not use the operating table on floors and/or with accessories that do not possess static electricity countermeasures. This may impede surgical operations.

CAUTION

● **Devices and accessories used together with this product**

- Before using other devices or accessories, thoroughly read the instruction manual of the devices and make sure that the operating table is not affected adversely. Before fitting on accessories from third party companies, contact your distributor or MIZUHO. Some accessories cannot be fitted on.
- While operating the operating table, check the position of other devices or the accessories used with them. They may come in contact with each other during the operation, the operating table, devices and/or accessories may get damaged.
- For hygiene, be sure to use sterilized drapes on the areas on this product where the patient comes into contact with it.

● **Moving and transporting**

- Do not move the operating table with a patient on it.
- Follow the procedures below to move the operating table.
  * Before moving the operating table, disinfect the entire operating table in order to prevent infection.
  1. Turn off the power and disconnect the power cord from the medical grade outlet.
  2. Check if the handles and levers are in fixed positions, and each section is fixed firmly.
  3. Unlock the brakes, and move the operating table.
- The operating table should be transported with the following conditions met.
  1. Disinfect the entire operating table before transporting it.
  2. Take measures to prevent it from tipping over, such as lowering the tabletop to the bottom position.
  3. Actuate the brake.
  4. Suitably position cushioning on the product to prevent it from getting damaged during transport.
  5. Store the product in a container so that it does not get exposed to dust, and the weather.

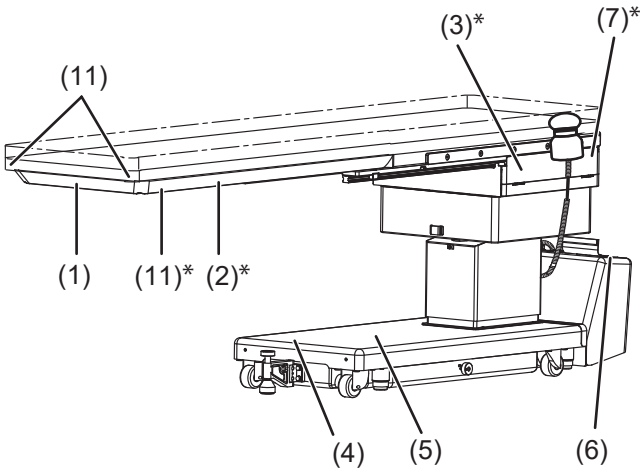
● **Disposal**

- In accordance with the European Union Waste Electrical and Electronic Equipment (WEEE) Directive, all electrical components and batteries must be disposed of in accordance with local regulations. Please contact your local distributor for proper disposal.
- Pay special attention to the following disposals:
  a) Hydraulic Fluid
  b) Lead Acid Batteries

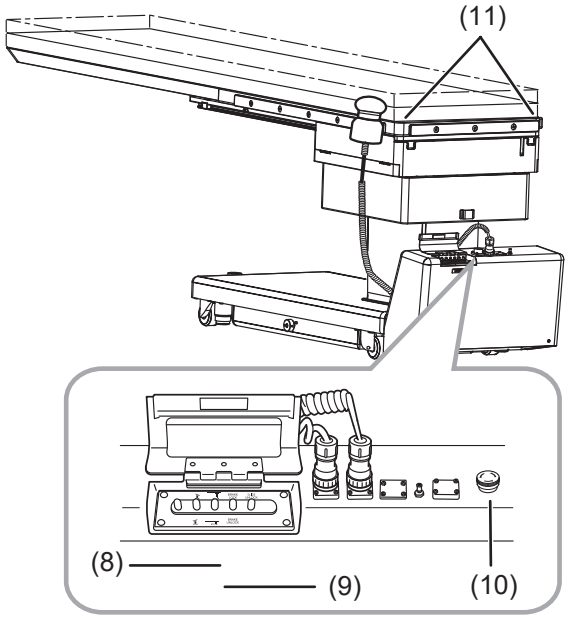
2.2 Labeling

The operating table is labeled at the locations shown as below. Before use, make sure to understand the contents of the labels.

■ Warning and Caution labels



* : Applied on both sides.



(1) C653044□

⚠ WARNING	⚠ MISE EN GARDE
Do not apply a load that is 135 kg or more on the edge of the tabletop. The table may fall and cause injury.	Ne pas appliquer une charge qui est de 135 kg ou plus sur le bord de la table. Le tableau peut tomber et causer des blessures.

C653044A

(2) C653045□

⚠ WARNING	⚠ MISE EN GARDE
Do not climb onto the tabletop. Anyone on the table may fall off or get injured.	Ne pas monter sur la table. Toute personne sur la table peut tomber ou se blesser.

C653045A

(3) C653046□

⚠ WARNING	⚠ MISE EN GARDE
Keep your hands away from the gap of the frame. Otherwise you may get injured.	Gardez vos mains loin de l'écart du cadre. Sinon, vous risquez de vous blesser.

C653046A

(4) C653043□

⚠ WARNING	⚠ MISE EN GARDE
Be sure to fix the operating table with the auxiliary brake when extending the head side.	Veillez à fixer la table d'opération à l'aide du frein auxiliaire lors de l'extension du côté tête.

(5) C653047□

(6) C656740□

⚠ WARNING	⚠ MISE EN GARDE
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER OR BACK.	NE PAS RETIRER LE COUVERCLE OU LA FACE ARRIÈRE AFIN DE RÉDUIRE LE RISQUE D'ÉLECTROCUTION.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.	CONFIER L'ENTRETIEN AU PERSONNEL DE SERVICE QUALIFIÉ.
REFER TO ACCOMPANYING DOCUMENTS.	SE RÉFÉRER AUX DOCUMENTS D'ACCOMPAGNEMENT.

(7) C653624□

⚠ WARNING	⚠ MISE EN GARDE
A Patient shall be set up to more than 1cm apart from a side rail so that a patient does not touch on side rails.	Un malade sera mis loin du rail du côté plus que 1cm afin qu'unmalade ne touche pas le rail du côté.

(8) C655803□

⚠ CAUTION

- THE AUXILIARY SWITCH IS INTENDED TO BE USED WHEN THE CONTROL UNIT IS DEFECTIVE. USE THE CONTROL UNIT WHENEVER IT IS IN NORMAL CONDITION. BECAUSE THE AUXILIARY SWITCH HAS NO FUNCTION TO RESTRICT THE OPERATION OF THE TABLE, THE TABLE MAY BE DAMAGED WHEN IT IS OPERATED WITH THE AUXILIARY SWITCH.
- WHEN OPERATING THE TABLE WITH THE AUXILIARY SWITCH, BE SURE TO WATCH THE MOVEMENT OF THE TABLETOP CONTINUOUSLY.
- IF THE TABLETOP SHOULD TOUCH ANYTHING OR GET DAMAGED IN ANY DURING THE OPERATION, STOP OPERATING THE TABLE IMMEDIATELY.

(9) C657333□

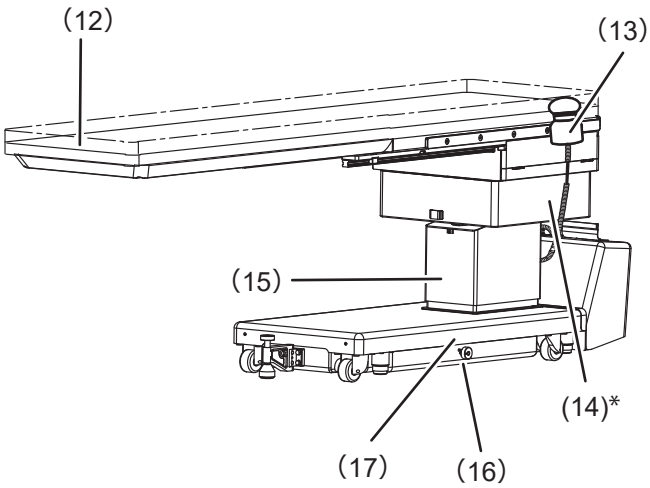
⚠ ATTENTION

- LE COMMUTATEUR DE SECOURS EST PRÉVU POUR ÊTRE UTILISÉ LORSQUE LE BOÎTIER DE COMMANDE EST DÉFECTUEUX. UTILISEZ TOUJOURS LE BOÎTIER DE COMMANDE DES LORS QU'IL EST EN ÉTAT NORMAL. LE COMMUTATEUR DE SECOURS N'AYANT AUCUNE FONCTION LUI PERMETTANT DE LIMITER LE FONCTIONNEMENT DE LA TABLE, CELLE-CI PEUT ÊTRE ENDOMMAGÉE LORSQU'ELLE EST UTILISÉE AVEC LE COMMUTATEUR DE SECOURS.
- LORSQUE VOUS UTILISEZ LA TABLE AVEC LE COMMUTATEUR DE SECOURS, ASSUREZ-VOUS DE CONTINUELLEMENT SURVEILLER LE MOUVEMENT DU PLATEAU.
- SI LE PLATEAU VIENT À TOUCHER QUELQUE CHOSE OU EST ENDOMMAGÉ D'UNE QUELCONQUE MANIÈRE DURANT L'OPÉRATION, CESSEZ IMMÉDIATEMENT D'UTILISER LA TABLE.

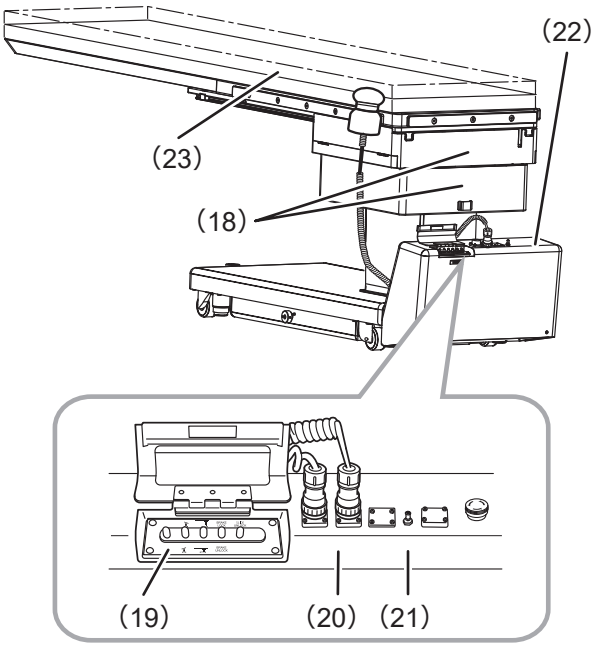
(10) C653614□

(11) C643025□

■ Other labels



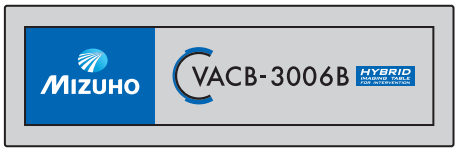
* : Applied on both sides.



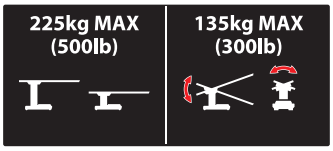
(12) C653620□

(13) C653053□

(14) C653052□

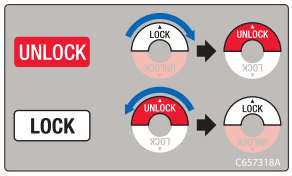


(15) C653050□



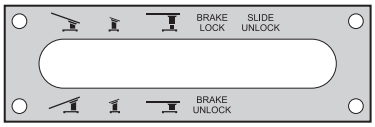
(16) C655711□

(17) C657318□

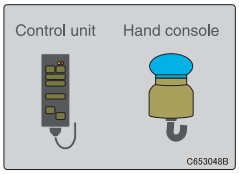


(18) C610171□

(19) C653034□

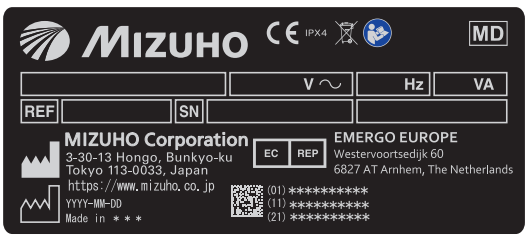


(20) C653048□



(21) C653513□

(22) C642002□



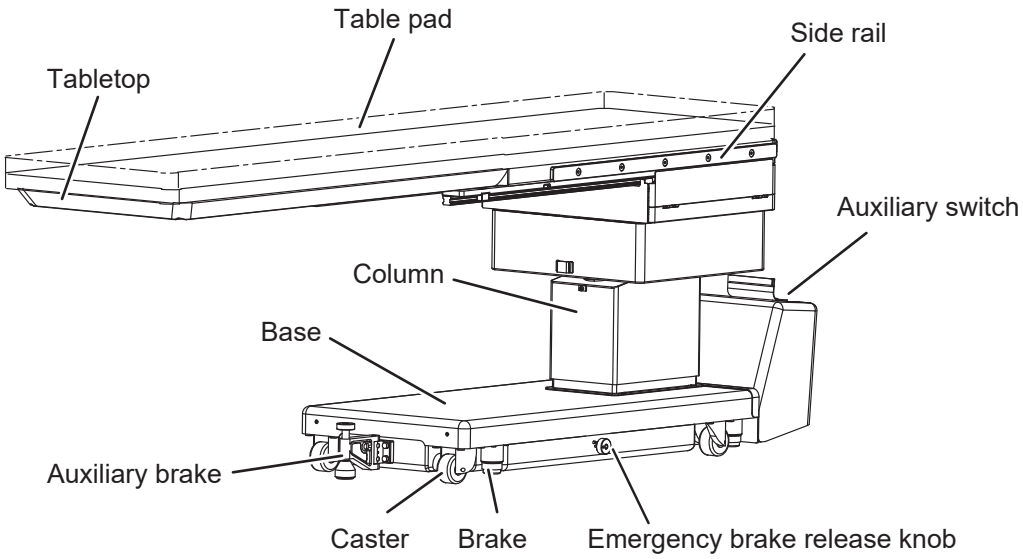
(23) 303A6M2

■ Symbol mark for labeling

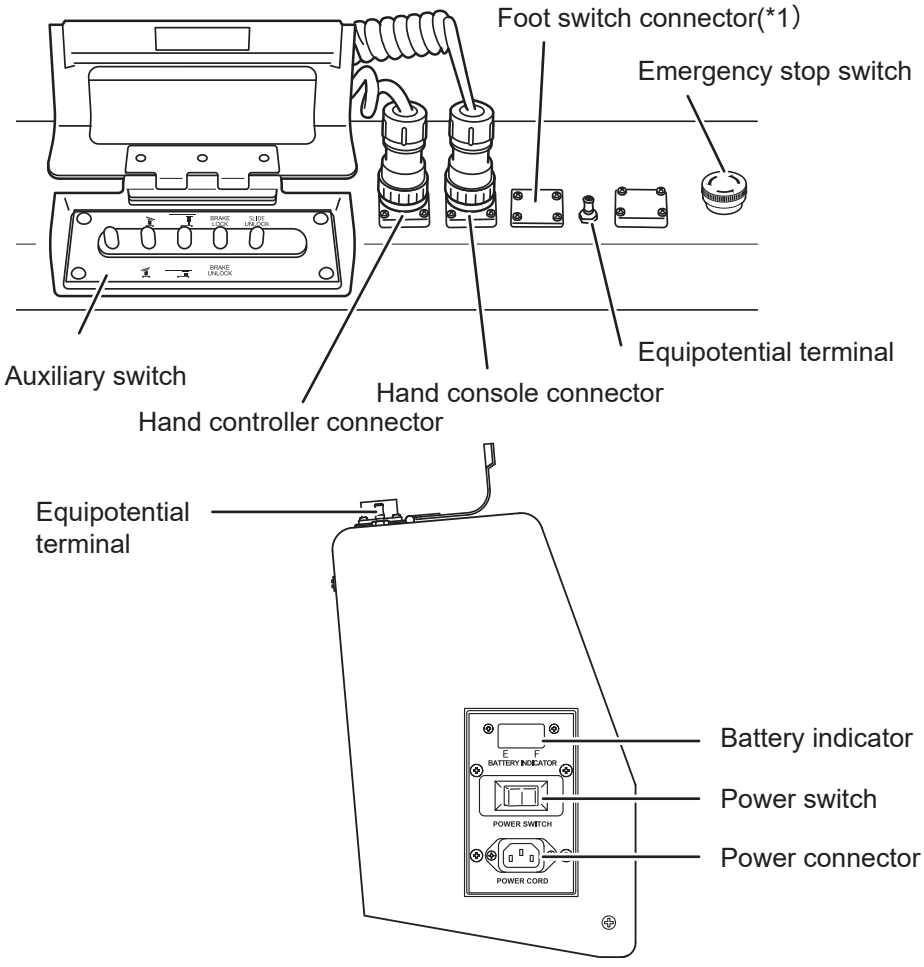
Symbol	Description	Label no.
	Indicates a possibility of injury or even death if operates the table without following the warning	(1) (2) (3) (4) (5) (6) (7) (8) (9) (11)
	General prohibition sign	(1) (2) (3) (6) (11)
	No sitting	(11)
	No stepping on surface	(11)
	General mandatory action sign	(4) (5) (6)
	Emergency stop	(10)
	Refer to the operator's manual	(6) (10) (22)
	Indicates AC power supply	(22)
IPX4	Enclosure Class (Splash-proof)	(22)
SN	Serial Number	(22)
REF	Catalogue Number	(22)
	Indicates waste disposal information	(22)
EC REP	European authorized representative	(22)
MD	Medical Device	(22)
	Equalization terminal	(21)
	Indicates protection against electric shock and defibrillator (Class B)	(12)
	Defibrillation - proof Type B applied part	(23)
	Date of manufacture	(22)
	Manufacturer	(22) (23)

3. Section Introduction

3.1 Main unit



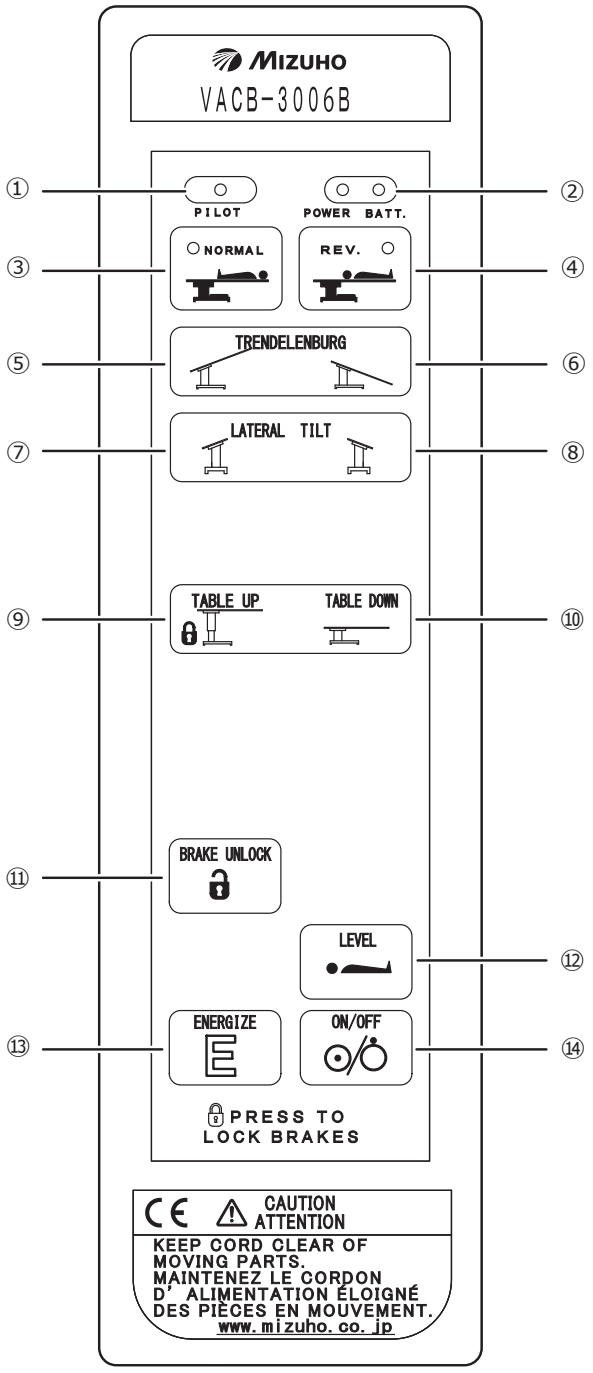
■ Power switch part



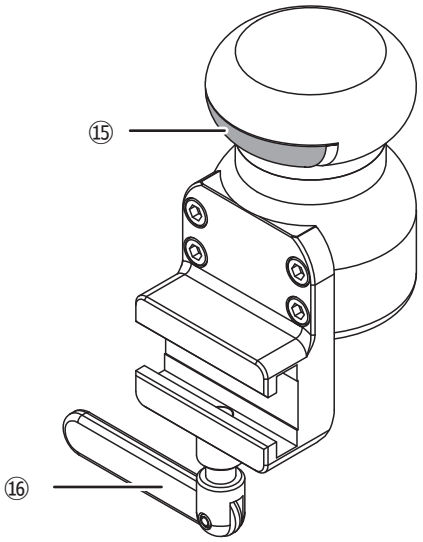
* 1: The foot switch is optional.

3.2 Hand controller/Hand console

■ Hand controller



■ Hand console

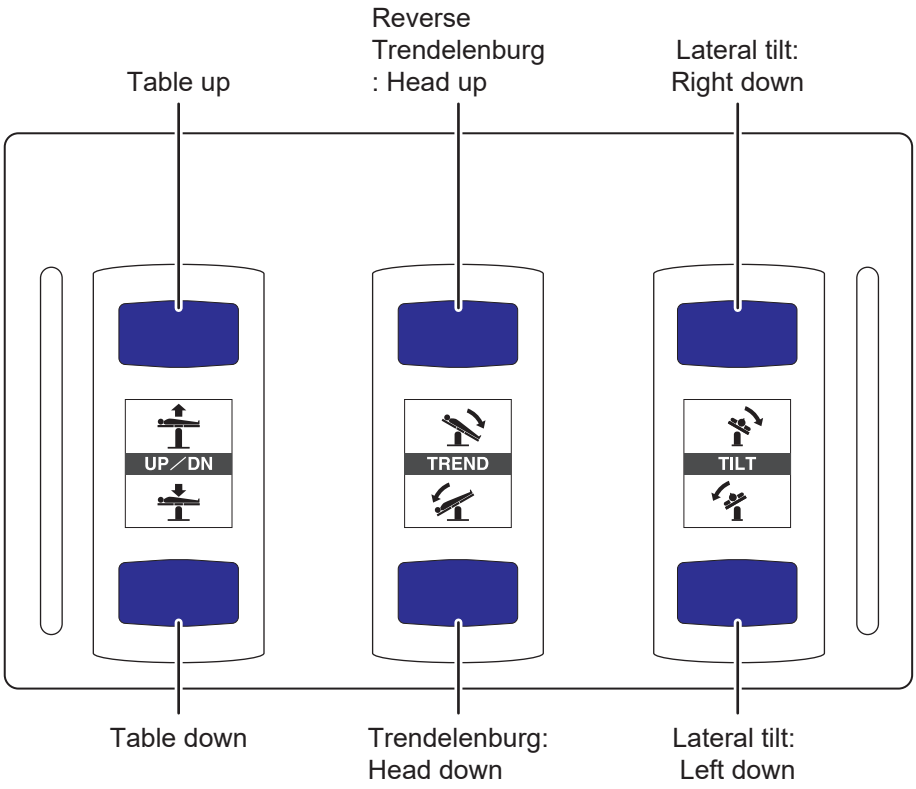


① Pilot lamp
② Power lamp/Battery lamp
③ NORMAL
④ REVERSE
⑤ Reverse Trendelenburg: Head up
⑥ Trendelenburg: Head down
⑦ Lateral tilt: Left down
⑧ Lateral tilt: Right down
⑨ Table up (Lock operating table)
⑩ Table down
⑪ Brake unlock
⑫ Return to level
⑬ E switch
⑭ ON/OFF switch (Battery power operation)
⑮ Switch (Power ON/Slide unlock)
⑯ Fixing handle

NOTE

- If E is pressed, the pilot lamp lights up. Pressing any function switch while the pilot lamp is lighting up, that function will operate while the switch is pressed.
- About 7 minutes of halting will be needed when operating the table continuously for about 3 minutes. If the motor gets overheated you will not be able to operate the table. When overheat occurs, about 60 minutes of rest will be needed to operate the table as usual.
- Pressing the REVERSE switch activates the reverse mode (viewed from the auxiliary switch side) for lateral tilting only.

3.3 Foot switch (optional)



NOTE

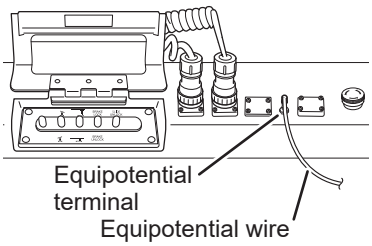
- The foot switch does not support the reverse mode.
- Lateral tilting is activated in the view from the auxiliary brake side.

4. Operation

4.1 Installation and battery charging

CAUTION

- Use the equipotential wire to ground the equipotential terminal to the medical grounding terminals.
  Prepare the equipotential wire yourself.
- When moving this product, carry it out with two or more persons.

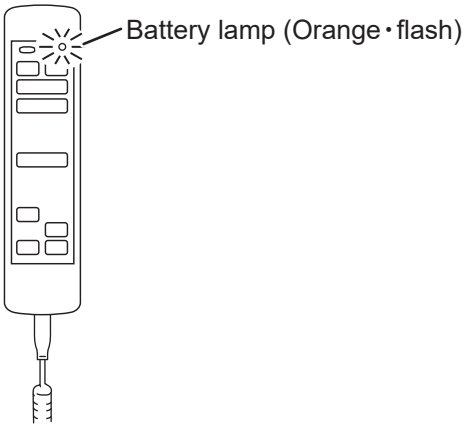


■ Installing the operating table

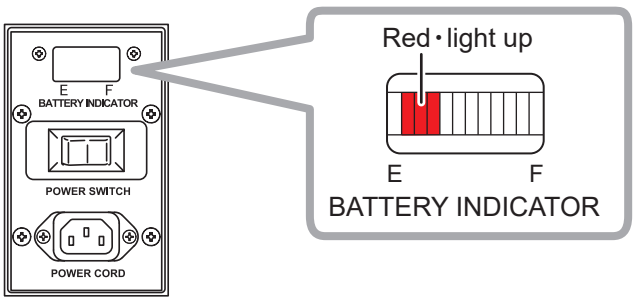
1. Move the operating table to a flat area.

2. Check the battery lamp.

If the battery lamp (orange) on the hand controller flashes, battery charging is required.

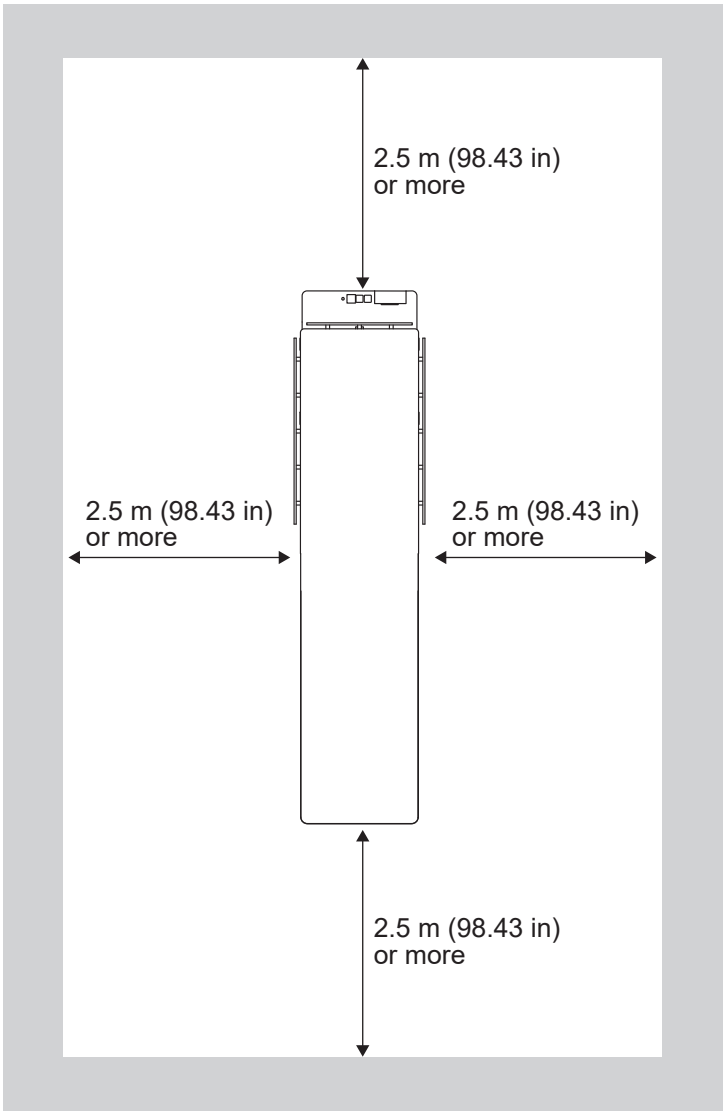


3. If the battery indicator shows empty (red), battery charging is required.



■ Installation space

This product requires the installation space shown as below.

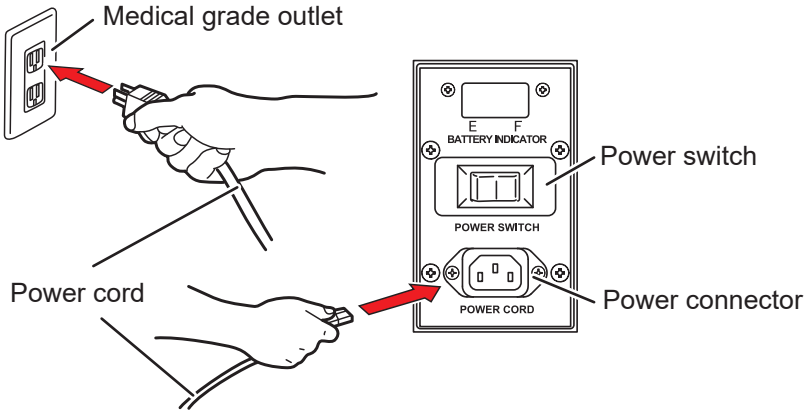


■ Charging the battery

CAUTION

- Connect the product to the power source provided with the protective grounding to prevent the risk of an electrical shock.
- Make sure to use the dedicated power cord with the “MIZUHO” logo.
- Before inserting the power cord into the power connector, check that the power connector does not have any fluid in it nor is dusty.
- If the battery deteriorates, it will not be available for the operating table when AC power is not supplied due to power outage etc.

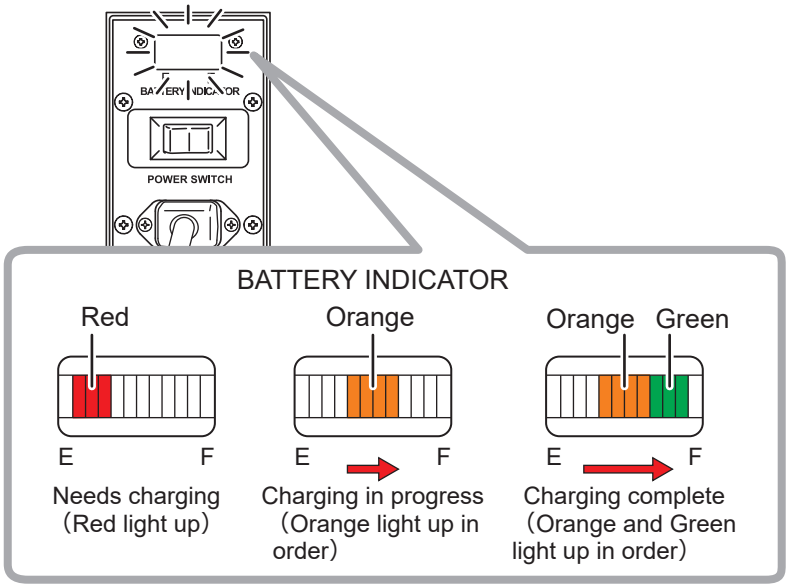
1. Connect the power connector of the product and the medical grade outlet with the power cord.



2. When turning on the power switch, battery charging starts.

While charging, the battery indicator sequentially lights up orange.

3. When the battery indicator sequentially lights up orange and green, charging is completed.

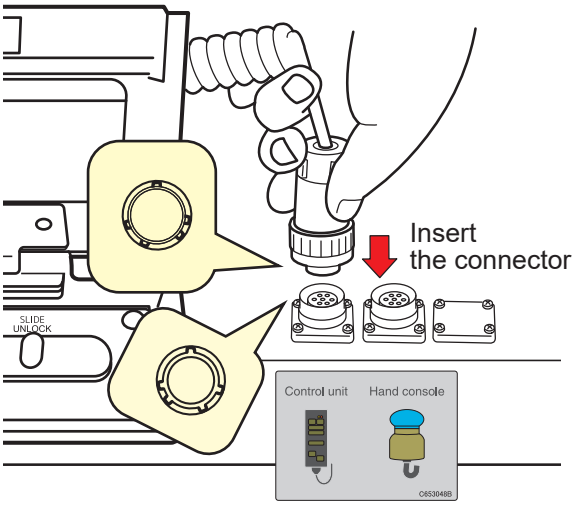


NOTE

- Make sure to charge the battery when initially using the purchased product, or when it has not been used for a long time. The battery naturally discharges itself when it is not being used and is being stored.
- If the battery lamp on the hand controller flashes or the battery indicator on the lower part of the operating table lights up only red while using the operating table with the battery power, charge the battery immediately. When the battery is discharged, only the AC power is available and will not be able to use the battery power.
- The operating table battery replacement time is about 2 years. Once it reaches its replacement time, request your distributor or MIZUHO for a battery replacement.
- The lifespan for the battery varies greatly depending on operating conditions. The battery could degrade quicker if charging and discharging the battery are repeated frequently after using the operating table for short operations.
- It is recommended that you charge the battery once a week on weekends, since it takes about 10 hours to fully charge the battery.
- If the battery is discharged soon even after charging, the battery may be degraded. Request repairs from your distributor or MIZUHO.
- While the battery is being charged, you can operate the operating table by using ON/OFF on the hand controller.

■ Attaching the hand controller

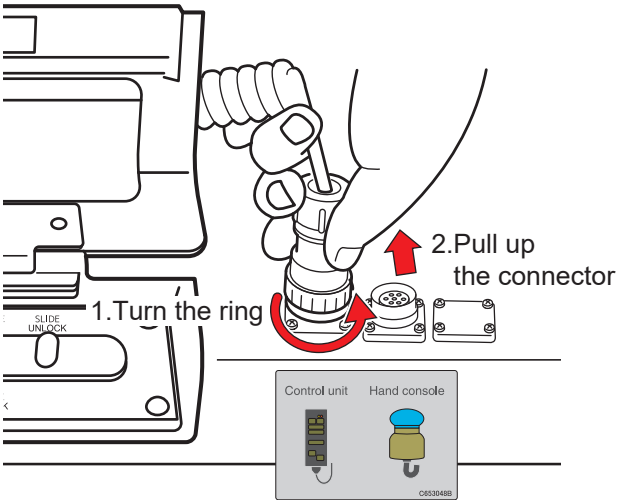
1. Align the connector with the guide and insert it into the receptacle properly.



■ Detaching the hand controller

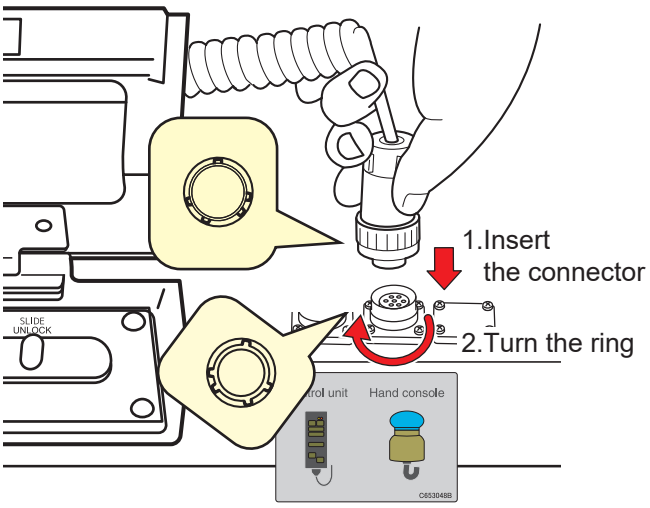
1. Turn the connector ring counterclockwise (to the left) until it stops.

2. Once it stops, pull up the connector.



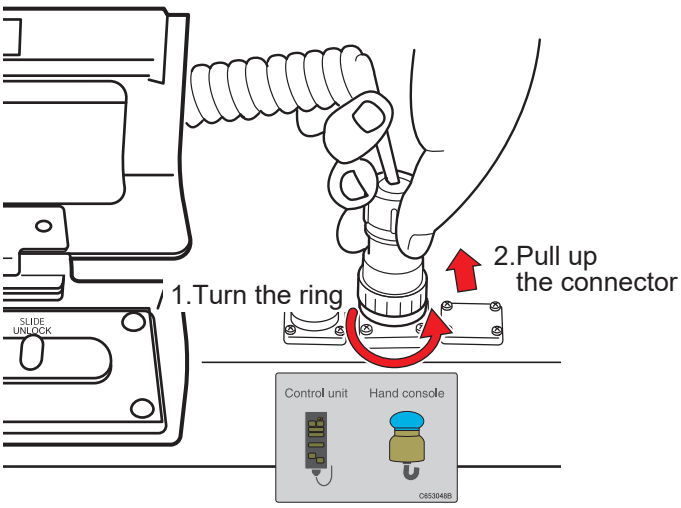
■ Attaching the hand console

1. **Align the connector with the guide and insert it into the receptacle properly.**
2. **Turn the connector ring clockwise (to the right) until it stops.**



■ Detaching the hand console

1. **Turn the connector ring counterclockwise (to the left) until it stops.**
2. **Once it stops, pull up the connector.**



■ Using the self-diagnostic function

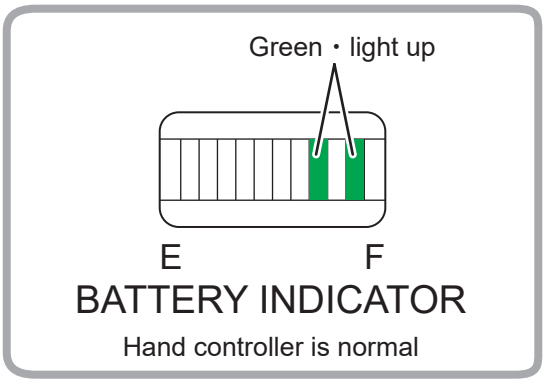
This product is equipped with an embedded self-diagnostic function capable of checking the communication status between the main unit and the hand controller.

1. Connect the power connector of the product and the medical grade outlet with the power cord.

2. Turn on the power switch on the base.

3. Press ENERGIZE E and one of the function switches on the hand controller at the same time.

If two lines of green on the battery indicator light up, the hand controller is functioning properly.



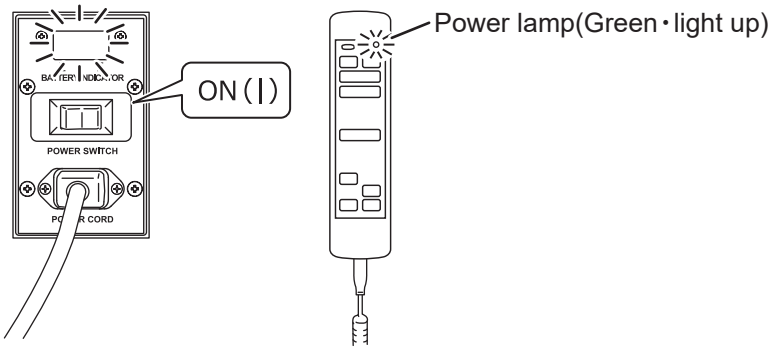
4.2 Turning on/off the power

■ When the medical grade outlet is used

● Turning on the power

1. Turn on the power switch on the base.

The battery indicator and the power lamp (green) on the hand controller light up, and the power is turned on.

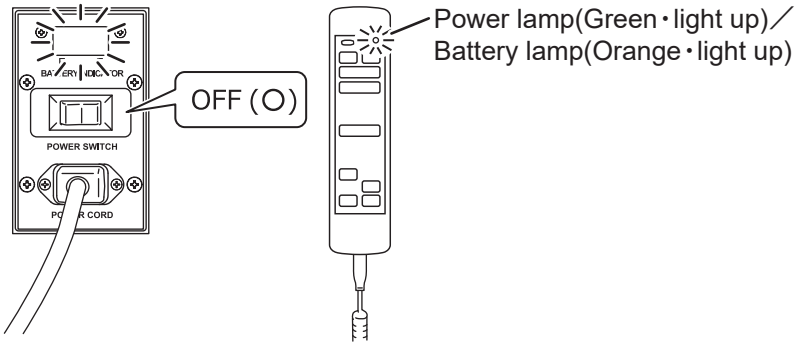


> **NOTE**
> In an emergency or when turning off the power completely, disconnect the power cord from the medical grade outlet.

● Turning off the power

1. Turn off the power switch on the base.

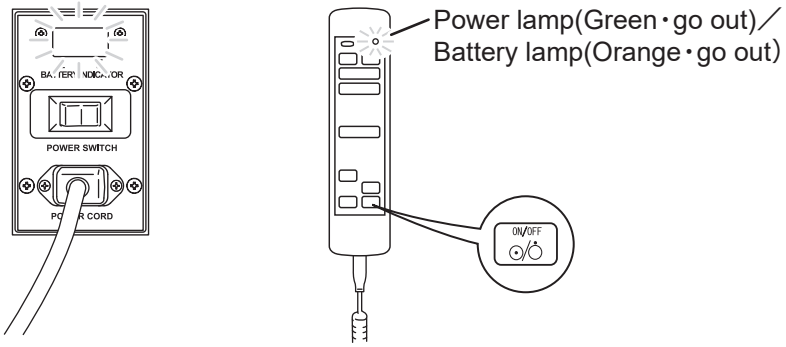
The battery lamp (orange) on the hand controller lights up, and the power is switched to the battery power.



> **NOTE**
> If the power switch on the base is turned off, the battery mode is activated.
> When turning off the power completely, press ON/OFF on the hand controller.

2. Press ON/OFF on the hand controller.

The power lamp (green), battery lamp (orange) and battery indicator go out, and the power is turned off.

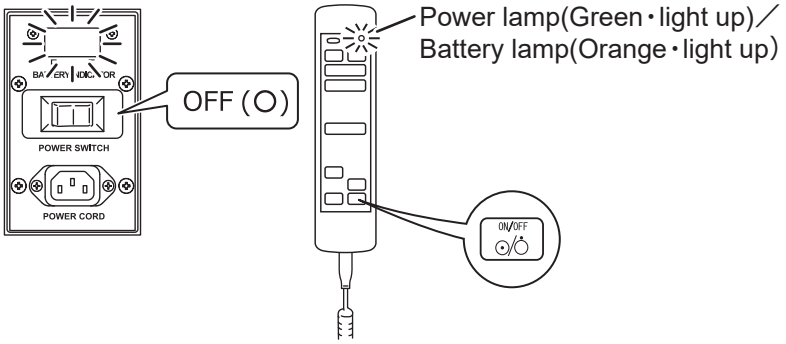


■ When the battery is used

● Turning on the power

1. When the power cord is not connected to the power connector or the power switch on the base is turned off, press ON/OFF on the hand controller.

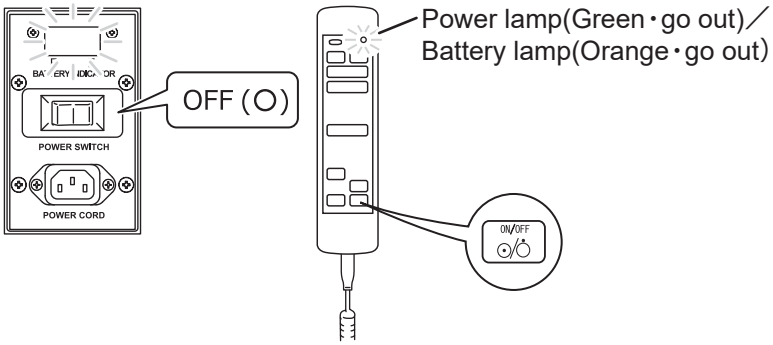
The power lamp (green), battery lamp (orange) and battery indicator light up, and the power is turned on.



● Turning off the power

1. When the power switch on the base is turned off, press ON/OFF on the hand controller.

The power lamp (green), battery lamp (orange) and battery indicator go out, and the power is turned off.



NOTE

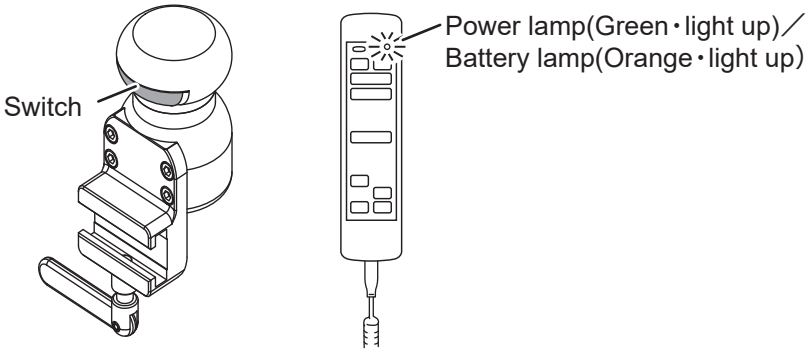
When using the battery, the power is turned off automatically 15 minutes after the last operation. If the power is turned off, turn on the power.

■ When the hand console is used

● Turning on the power

1. Press the switch on the hand console.

The power lamp (green) and battery lamp (orange) on the hand controller light up, and the power is turned on.



NOTE

- After the power is turned on, the slide function of the tabletop will be unlocked when the switch on the hand console is pressed again.
- Using the hand console to power on the table is available only with the battery power.
- The hand console does not have a power-off function.

4.3 Operating the emergency stop switch

In an emergency, you can stop the operating table from moving by pressing the emergency stop switch.

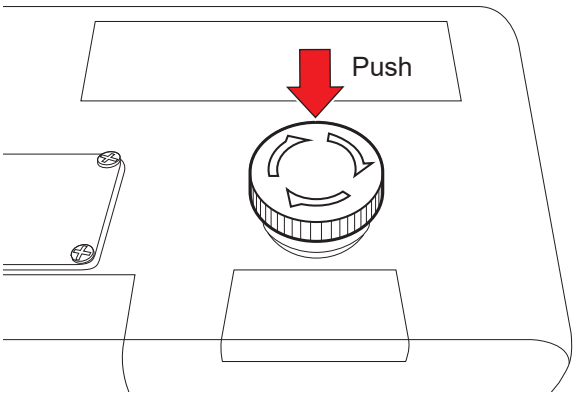
WARNING

The emergency stop switch must be used only in an emergency.

■ Operating in an emergency

1. Press the emergency stop switch.

The buzzer sounds and the operating table stops.



NOTE

The emergency stop switch is located near the hand controller connector.

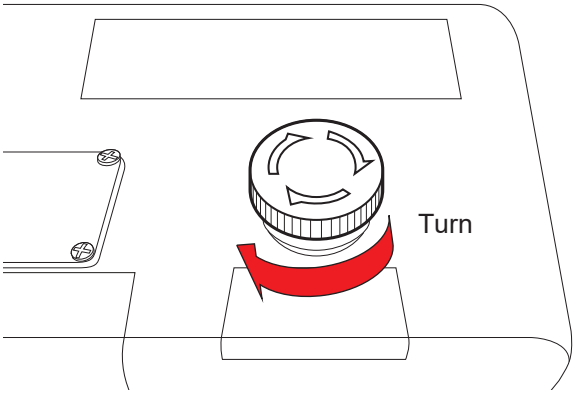
■ Canceling operations

CAUTION

To reset the operating table to the original position in an emergency where, for example, an operator's hand is caught in a gap of the operating table, press the switch on the hand controller to move the table in the opposite direction.

1. After the operating table stops, turn the emergency stop switch clockwise (to the right) or pull it up to cancel the emergency stop switch.

The buzzer stops sounding.



4.4 Fixing and unfixing the operating table

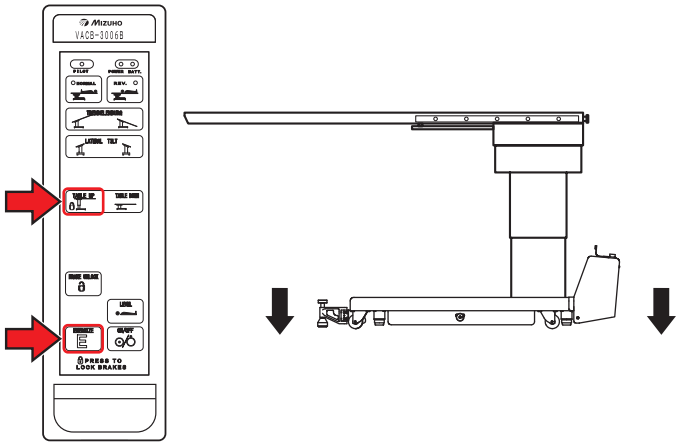
■ Fixing the operating table

WARNING

- After activating the brake, check that the operating table is fixed securely.
- If the operation needs to be halted, press the emergency stop switch.

1. Press ENERGIZE first and then TABLE UP.

The brake is activated to fix the operating table. Operations such as raising the tabletop will not operate until the fixing of the operating table is completed.



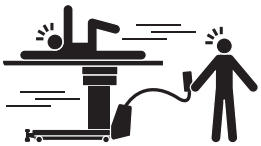
NOTE

- The operating table can be fixed or unfixed once ENERGIZE and TABLE UP or BRAKE UNLOCK are pressed.
- It takes about 12 seconds until the operating table is fixed or unfixed.
- If the brake cannot be activated and the operating table is not fixed, refer to "Troubleshooting." (→Page 40)

■ Unfixing the operating table

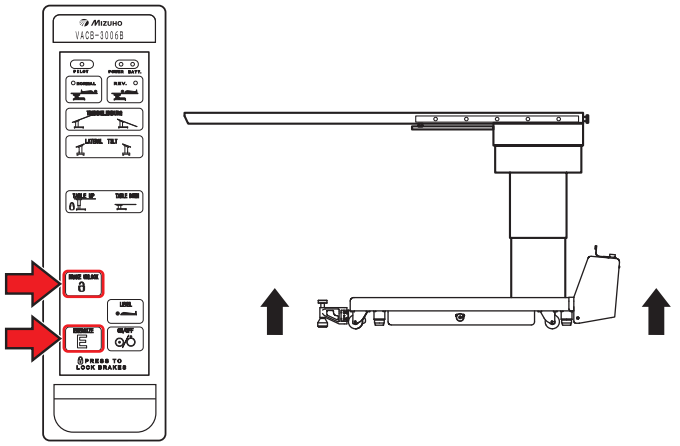
WARNING

Do not unfix the operating table with a patient on it.
The patient may fall from the operating table.



1. Press ENERGIZE first and then BRAKE UNLOCK for 1 second or more.

The brake is released for unfixing the operating table. The operating table can be moved.



NOTE

If the operating table is secured together with the auxiliary brake, release the auxiliary brake before unlocking the operating table with the hand controller. The operating table cannot be moved when the auxiliary brake is locked.

4.5 Tilting the tabletop laterally

WARNING

When you tilt the tabletop laterally with a patient on the operating table, make sure to use the fixing accessory for the MIZUHO operating table.
The patient may fall from the operating table.

Normal mode

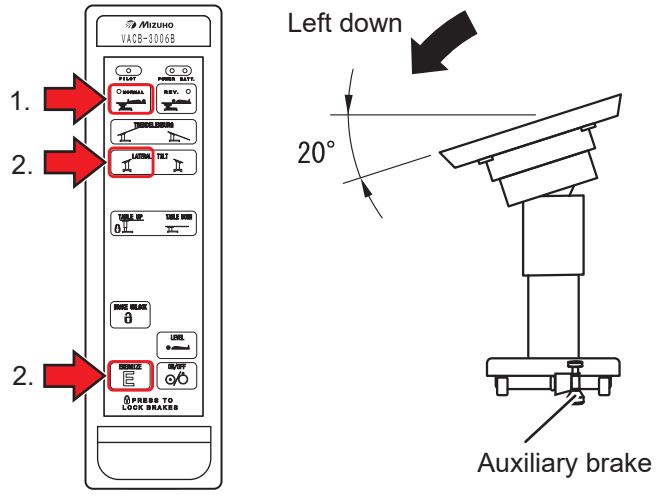
■ Tilting to the left

1. Press [NORMAL] on the hand controller.

The NORMAL switch lights up.

2. Press [ENERGIZE] first and then [LATERAL TILT].

The tabletop tilts to the left in the view from the auxiliary brake side.



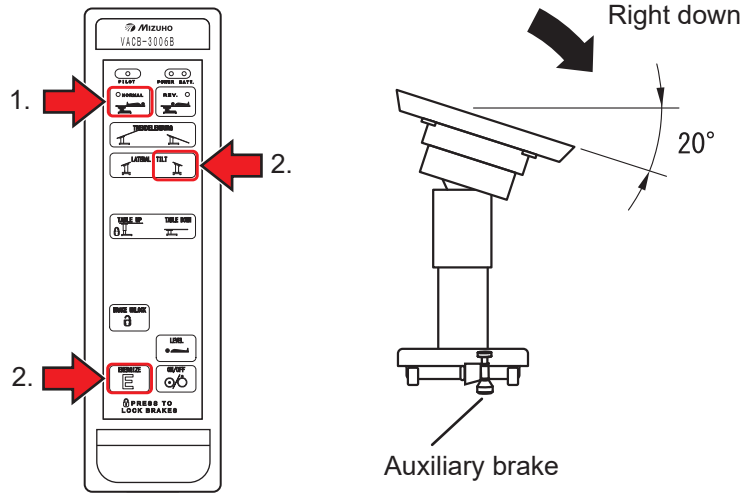
■ Tilting to the right

1. Press [NORMAL] on the hand controller.

The NORMAL switch lights up.

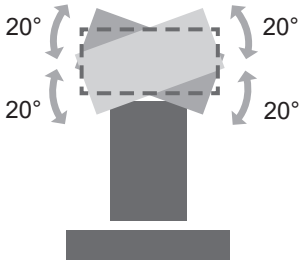
2. Press [ENERGIZE] first and then [LATERAL TILT].

The tabletop tilts to the right in the view from the auxiliary brake side.



NOTE

- The maximum angle achieved in the left down and right down position is 20° from the level position.



- If the tabletop is in the level position (parallel to the floor) the slide will be locked before tilting begins. It takes about 1.5 seconds for the tabletop slide to be locked.

Reverse mode

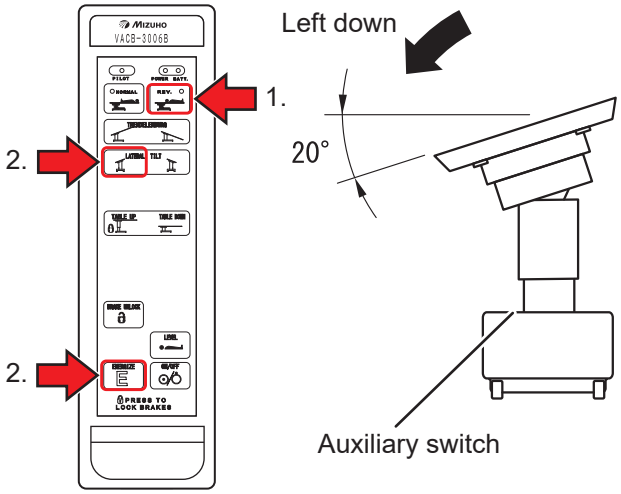
■ Tilting to the left

1. Press [REV.] on the hand controller.

The REVERSE switch lights up.

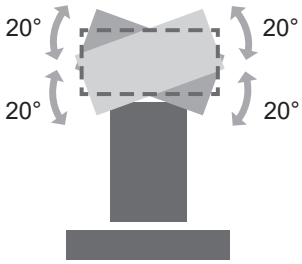
2. Press [ENERGIZE] first and then [TILT].

The tabletop tilts to the left in the view from the auxiliary switch side.



NOTE

- The maximum angle achieved in the left down and right down position is 20° from the level position.



- If the tabletop is in the level position (parallel to the floor) the slide will be locked before tilting begins. It takes about 1.5 seconds for the tabletop slide to be locked.

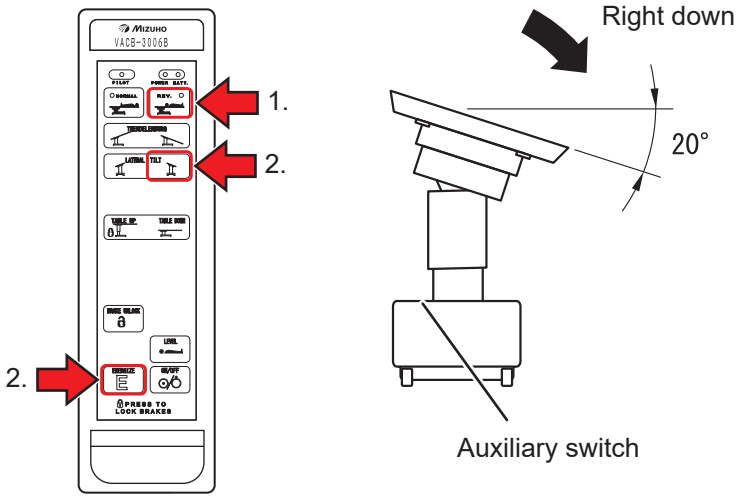
■ Tilting to the right

1. Press [REV.] on the hand controller.

The REVERSE switch lights up.

2. Press [ENERGIZE] first and then [TILT].

The tabletop tilts to the right in the view from the auxiliary switch side.



4.6 Trendelenburg

WARNING

When you operate the Trendelenburg operation with a patient on the operating table, make sure to use the fixing accessory for the MIZUHO operating table.
The patient may fall from the operating table.

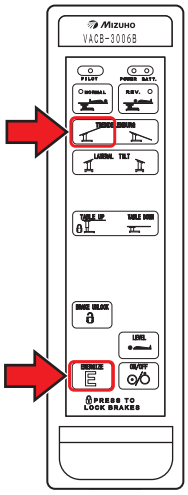
CAUTION

Do not operate until the tip of the tabletop contacts the floor. It may get damaged.

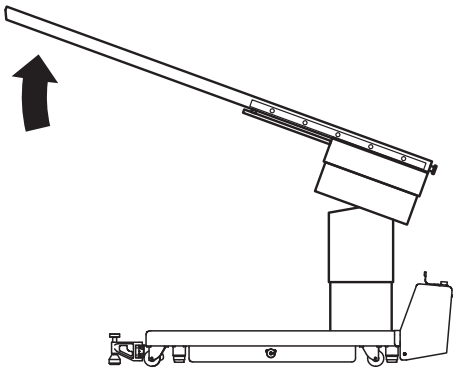
■ Reverse Trendelenburg (Head up)

1. Press ENERGIZE first and then .

The tabletop moves to the head up position.



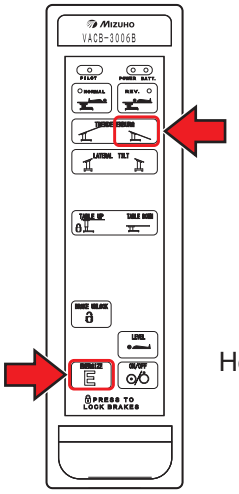
Head up



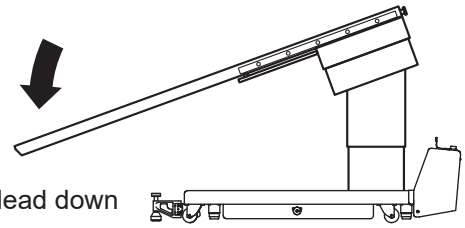
■ Trendelenburg (Head down)

1. Press ENERGIZE first and then .

The tabletop moves to the head down position.

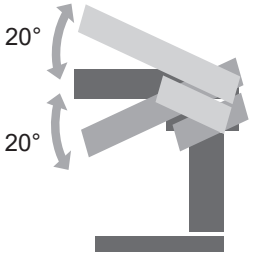


Head down



NOTE

- The maximum angle achieved in the head up and head down position is 20° from the level position.



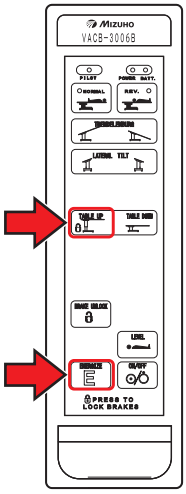
- If the tabletop is in the level position (parallel to the floor) the slide will be locked before tilting begins. It takes about 1.5 seconds for the tabletop slide to be locked.

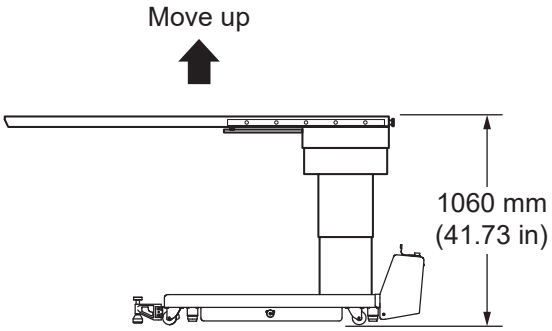
4.7 Changing the tabletop height

■ Moving up the tabletop

1. Press [ENERGIZE] first and then [TABLE UP].

The tabletop moves up.





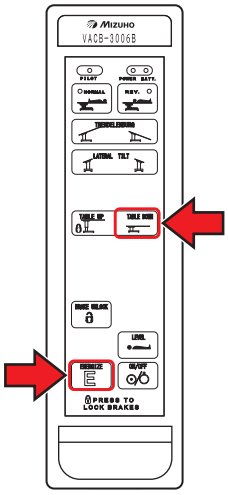
NOTE

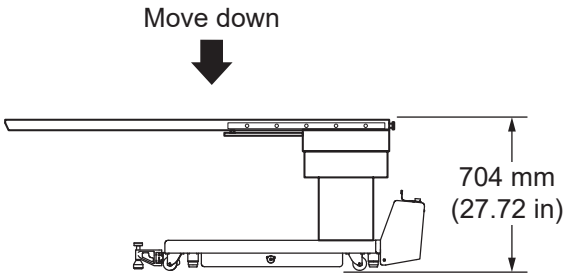
- The maximum height from the floor to the tabletop upper surface is 1060 mm (41.73 in).
- The minimum height from the floor to the tabletop upper surface is 704 mm (27.72 in).

■ Moving down the tabletop

1. Press [ENERGIZE] first and then [TABLE DOWN].

The tabletop moves down.





4.8 Return to level

CAUTION

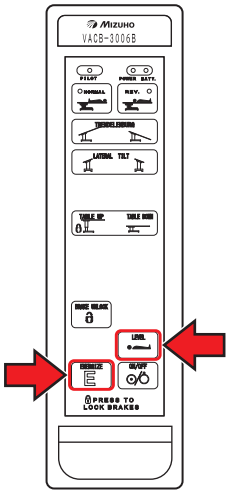
If you push the tabletop when it is in the level position, it may move in the sliding direction.

■ Return the tabletop to the level position

1. Press [ENERGIZE] first and then [LEVEL].

The tabletop from the Trendelenburg and lateral tilting will return to the level position.

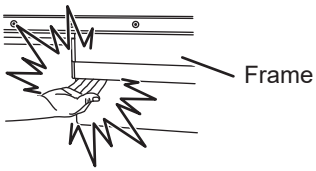
NOTE
Elevation and braking do not function.

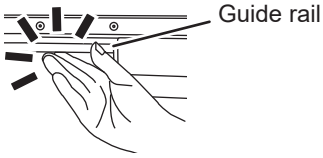


4.9 Sliding the tabletop

WARNING

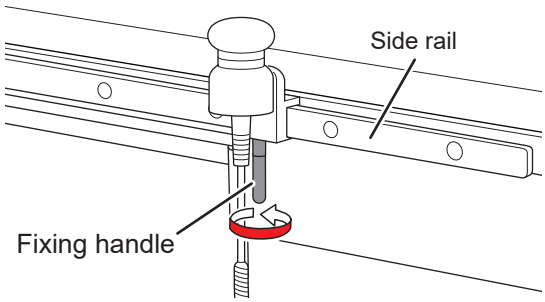
- Keep your hands away from the gap of the frame during the operation of the table. Otherwise you may get injured.
- Keep your hands away from the guide rail under the tabletop.Otherwise you may get injured.





■ Hand console

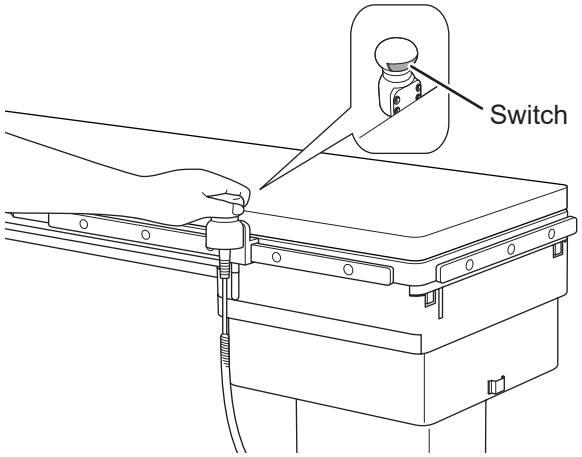
1. Attach the hand console onto the side rail, and turn the fixing handle to fix it.



2. Make sure the table top is in the level position.

3. Press the switch on the hand console.

4. By pushing or pulling the hand console or tabletop while pressing the switch, the tabletop can be slid vertically or laterally. When the switch is released, the tabletop will be fixed in that position.



NOTE

- The slide's maximum travel of the tabletop is as follows.
  Vertical direction: 710 mm (27.95 in)
  Lateral direction: 200 mm (7.87 in)
- The tabletop slides only when the tabletop is in the level position. The buzzer will sound and the tabletop won't slide when the switch on the hand console is pressed while the tabletop is tilted.

NOTE

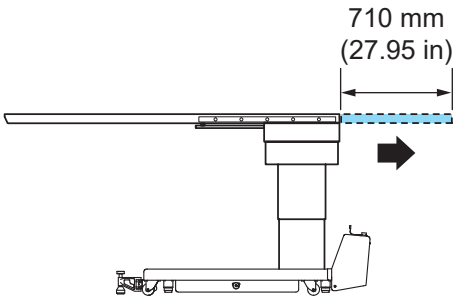
- If the table won't slide, the reset signal may not be input in the lock mechanism. Follow the instructions below.

1.Press ON/OFF on the hand controller to turn off the power.

2.Turn on the power after 2 seconds or more.

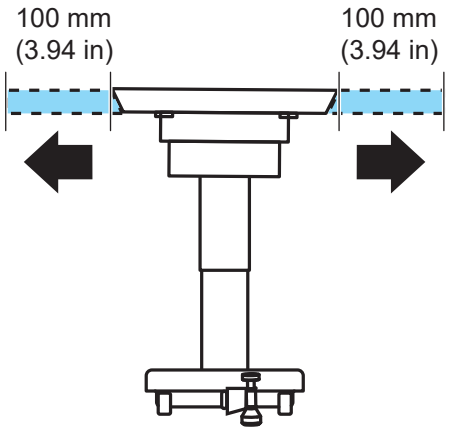
Vertical sliding

The tabletop slides vertically as described below.



Lateral sliding

The tabletop slides laterally as described below.



NOTE

If the hand console is used and the tabletop is slid laterally to its maximum extent, a buzzer will sound and it can no longer be slid. In this case, perform the following operation. Then the sliding can be operated again.

1. Press ENERGIZE first and then LEVEL on the hand controller.
2. Press the hand console switch, and slide it.

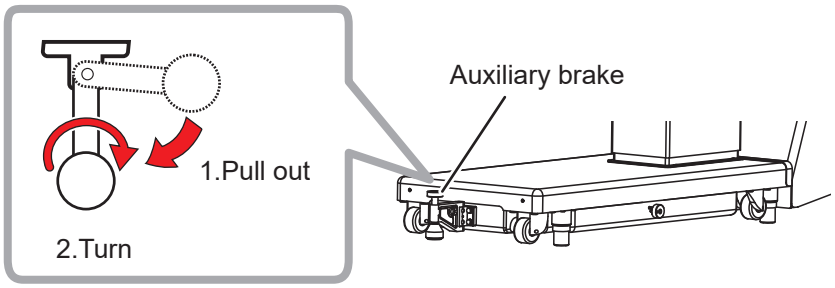
4.10 Auxiliary brake

WARNING

When using an operating table accessory that extends the tabletop, make sure to lock the operating table with the hand controller and then lock the operating table with the auxiliary brake. The patient may fall from the operating table.

■ Fixing the operating table with the auxiliary brake

1. **Pull out the auxiliary brake in the direction of the arrow in the figure below.**
2. **Turn the brake handle clockwise (to the right) until it stops, and fix the auxiliary brake.**

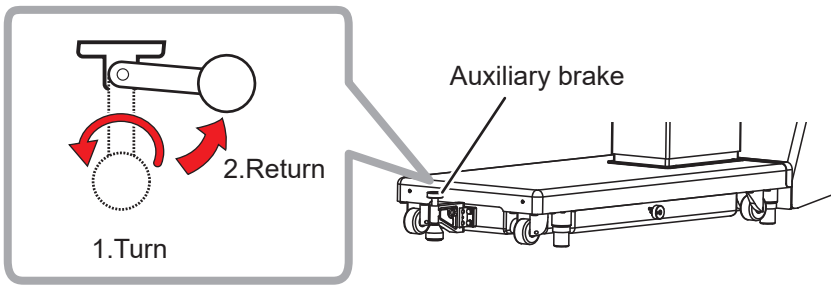


NOTE

You can install the optional dedicated accessories to the tabletop. For details, refer to the instruction manual of the accessories.

■ Release the auxiliary brake

1. **Turn the brake handle counterclockwise (to the left) until it is released.**
2. **Return the auxiliary brake to the original position.**



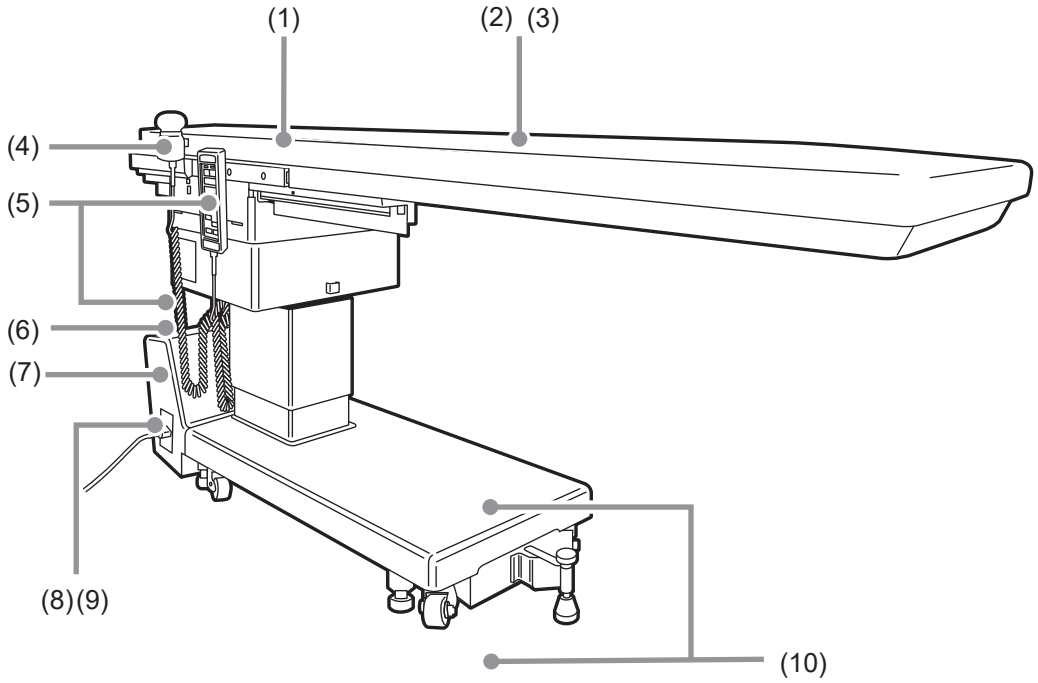
5. Maintenance and inspection

5.1 Inspection before and after use

WARNING

Make sure to inspect the items below before and after use. If there are any abnormalities, request your distributor or MIZUHO for repairs. Otherwise it may cause problems during surgery.

Inspect the items below. If there is any problem, request your distributor or MIZUHO for repair.



(1) Table pad

● Before use

• Check the table pad for any damage.

● After use

• Check the table pad for any damage or dirt.

(2) Backlash of the tabletop

● Before use

• Check the tabletop for any backlash when jiggling both sides of the tabletop.

(3) Tabletop

● Before use

• Check the tabletop for any damage.

● After use

• Check the tabletop for any damage or dirt.

(4) Hand console

● Before use

• Check if the tabletop slides properly with the hand console.

(5) Hand controller/Auxiliary switch

● Before use

• Press the switches on the hand controller and auxiliary switch to see if all functions are working properly.

(6) Emergency stop switch

● Before use

• Check if the emergency stop switch is working properly.

(7) Battery

● Before use

• Check if the battery has been charged.

(8) Power switch

● Before use

• Turn on the power switch to see if the power lamp on the hand controller lights up.

(9) Power cord and plug

● Before use

• Check the power cord for any exposed wire and the plug for any damage.

(10) Oil leakage

● Before and after use

• Check the floor or the base surface for any hydraulic oil.

5.2 Cleaning and disinfection

WARNING

- In order to prevent infections, make sure to clean and disinfect the operating table after using it.
- Make sure to unplug the power cord and turn off the main power when cleaning and disinfecting the operating table. The operating table may actuate and cause injury.

CAUTION

- Make sure to use MIZUHO authorized disinfectants. Failure to do so may cause the operating table to become discolored or deformed.
- Do not use hydrogen peroxide solution to clean the hand console. Failure to do so may cause the hand console to become discolored.

■ Cleaning and disinfection procedures

1. **Turn off the power and disconnect the power cord from the medical grade outlet.**
2. **Detach the table pad from the operating table.**
3. **Use a lint-free cloth soaked with proper volume of disinfectant to wipe off the upper, sides, and back side of the table pad.**
4. **As with step 3, disinfect the surfaces of the table and side rails.**
5. **Wipe off the operating table with a clean dry cloth within 15 minutes after disinfecting it.**

■ Disinfectants

Authorized disinfectants are as shown below.

	Disinfectant name	Concentration
a	Sodium hypochlorite	0.1%
b	Hypo Alcohol	10%
c	Chlorhexidine gluconate	0.5%
d	Benzalkonium chloride	10%
e	Ethanol	80%
f	Isopropyl alcohol	99.5%

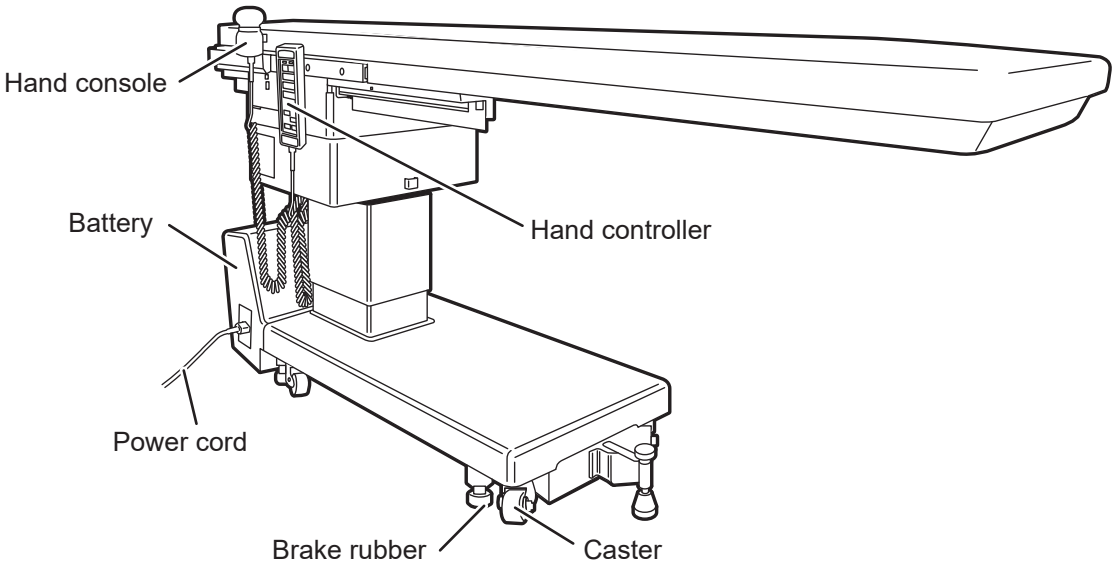
NOTE
Use the disinfectant according to the operator's manual and instructions for disinfectant use.

5.3 Maintenance by providers

For safety use of this product, make sure to perform the periodical inspection by MIZUHO or the certified provider once a year.
Inspections and maintenances by other than MIZUHO or the certified provider could cause any adverse event such as deterioration of the performance and functions.
For request for the periodical inspection, contact your distributor or MIZUHO.

5.4 Periodic replacement parts

MIZUHO specifies that the following parts need to be periodically replaced for safety use.
The replacement time is a rough standard. Earlier replacement may be required depending on the usage condition and/or usage frequency.
Request your distributor or MIZUHO for replacements.



Parts	Replacement time (years)
Battery	2
Hand controller	4 to 6
Caster	5 to 7
Brake rubber	3 to 5
Power cord	5 to 7
Hand console	4 to 6

NOTE
The aforementioned are estimated times. The replacement time may depend on usage condition and/or usage frequencies.

5.5 Version information of the software

The version information for the control software which is installed in the operating table can be verified via the label that is directly applied on the on-board microcomputer.

CAUTION
The version information of the software is mainly for the service and maintenance personnel as needed. For confirmation, open the base cover to access the control board.

6. Specification

6.1 Specification table

Product description			VACB-3006B
Electromotive functions	Elevation range	Highest	1060 mm (41.73 in)
		Lowest	704 mm (27.72 in)
	Trendelenburg angle	Head up	20°
		Head down	20°
	Lateral tilt angle	Left down	20°
		Right down	20°
	Return to level		Trendelenburg / Lateral tilt
	Brake		Lock / Unlock
	Control devices	Hand controller	NORMAL, REVERSE, Trendelenburg, Lateral tilt, Elevation, Return to level, Brake, E switch, Power ON/OFF
		Hand console	Power ON, Slide unlock
		Auxiliary switch	Trendelenburg, Lateral tilt, Elevation, Brake, Slide unlock
		Foot switch: Note 9	Elevation, Trendelenburg, Lateral tilt
		Emergency stop switch	Stop
Manual functions	Sliding	Vertical direction	710 mm (27.95 in)
		Lateral direction	200 mm (7.87 in)
	Others		Emergency brake release knob, Auxiliary brake
Rating	Classification as per 60601-1		Class I Equipment / Type B Applied Parts / IPX4 Rated (internal power source device: Note 1)
	Supply voltage		AC 100 - 240 V
	Rated supply frequency		50/60 Hz
	Battery power		DC 24 V
	Battery charging time		Up to 10 hours (cumulative operation time when fully charged: up to 40 min.: Note:10)
	Power consumption		400 VA
	Operating voltage		DC 5 V , 24 V
	Duty cycle (per 1 cycle)		3 min on, 7 min off: Note 2
	Others		Recovery from defibrillator is within 5 seconds. Conformity to EMC Standard IEC 60601-1-2: 2020
Dimension	Tabletop		2095 mm (82.48 in) (L) x 500 mm (19.69 in) (W): Note 3
	Base		1244 mm (48.98 in) (L) x 486 mm (19.13 in) (W): Note 4
Weight			385 kg (849 lbs)
Weight capacity: Note 5			Elevation: 225 kg (500 lbs) Operations other than elevation: 135 kg (300 lbs)
Transitable height and width			Height: 10 mm (0.39 in) / Width: 80 mm (3.15 in)

Operating environment	Temperature	10 to 40°C (50 to 104°F): Note 6
	Humidity	30 to 75%: Note 6
	Atmospheric pressure	700 to 1060 hPa: Note 6
	Others	Allowable altitude for use is 3000 m or lower.: Note 6
Transportation and storage	Temperature	-10 to 50°C (14 to 122°F): Note 7
	Humidity	10 to 85% (without moisture condensation): Note 7
	Atmospheric pressure	700 to 1060 hPa: Note 7
Service life		Under the specified maintenance and proper storage, 10 years: Note 8

Note 1: When the battery power is used

Note 2: Operating tables operating possible time and halting time per 1 cycle

Note 3: Excluding the side rail

Note 4: Rough dimension

Note 5: Total of the patient and accessories

Note 6: IEC 60601-1: 2020 Medical electrical equipment - Part1: General requirements for basic safety and essential performance

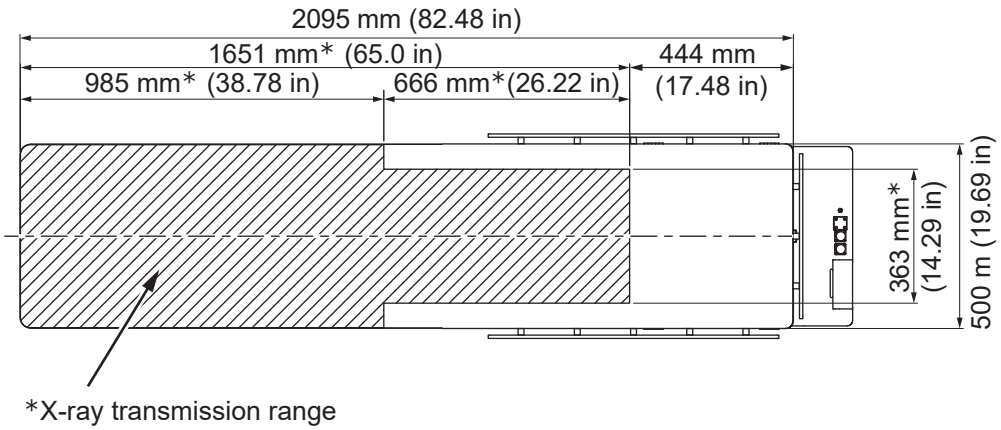
Note 7: Company standard (in case that appropriate maintenance and inspection is done)

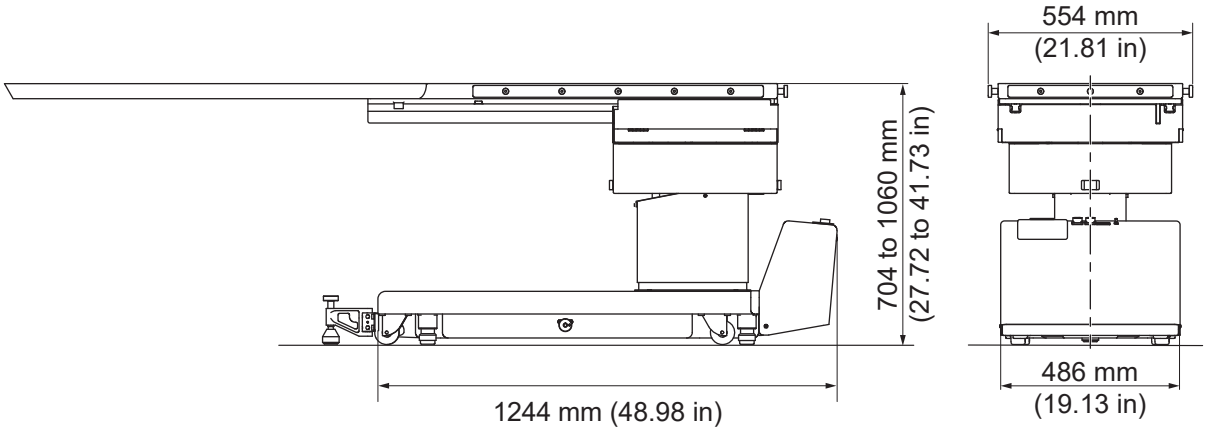
Note 8: Based on MIZUHO's own validation data

Note 9: Optional

Note 10: Depending on the usage conditions

6.2 External view





7. Troubleshooting

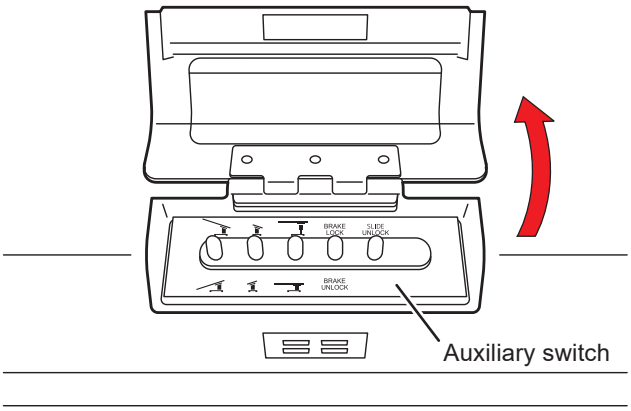
7.1 When the hand controller cannot be used

■ Use the auxiliary switch to operate the operating table

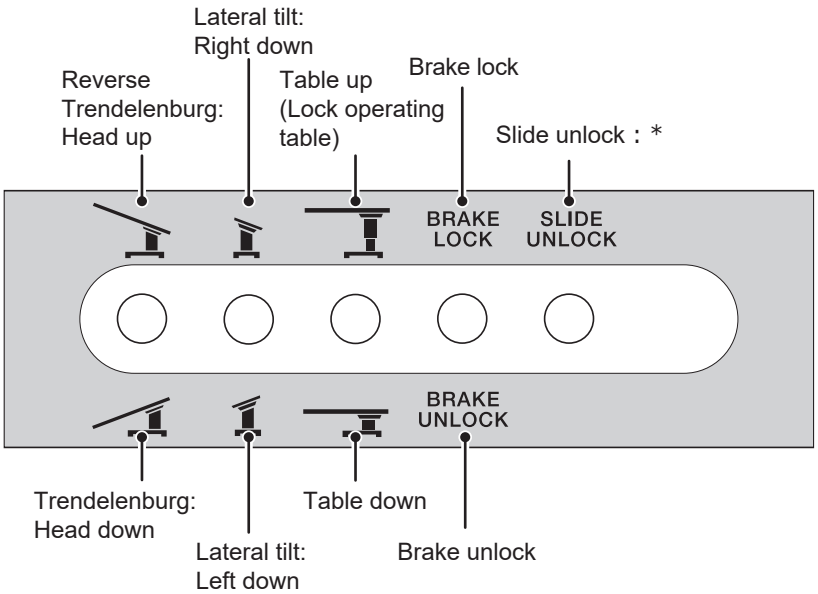
CAUTION

- The auxiliary switch should be used only in an emergency.
- Always watch movement of the operating table when you operate the auxiliary switch.
- If any parts come in contact with each other, immediately stop the operation. Otherwise, the operating table may get damaged.

1. Open the lid of the auxiliary switch.



2. Press the function switch on the control panel according to the desired direction.



∗ :The hand controller can only be operated when the tabletop is in the level position. When the tabletop is not in the level position, the buzzer sounds and the hand controller operation is disabled.

NOTE

- The operating table moves while the auxiliary switch is being pressed.
- The operating table stops once the maximum angle is achieved at each operation.
- Lateral tilting is activated in the view from the auxiliary switch side.

7.2 When the brake cannot be released

WARNING

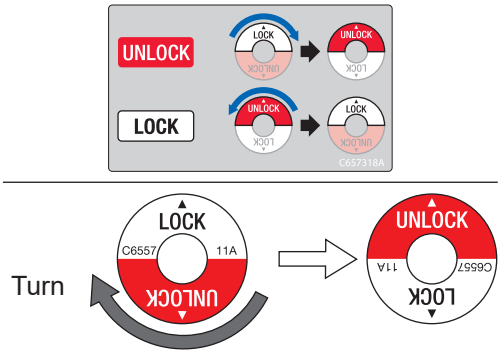
- Do not operate the emergency brake release knob with a patient on the operating table. The operating table may tip over resulting in injury.
- Do not operate the operating table while the emergency brake release knob is in the UNLOCK state. The operating table may tip over resulting in injury.
- After returning the emergency brake release knob to LOCK, operate the brake release with the hand controller. If the operating table is operated without the brake release being operated, the system misidentifies the operating table is locked properly and the operating table operates with the brakes released, which may tip over resulting in injury.

■ Brake release with the emergency brake release knob

In case of electrical trouble, the operating table can be moved by using the emergency brake release knob.
Follow the procedure below to release the brake.

1. Turn the emergency brake release knob clockwise (to the right).

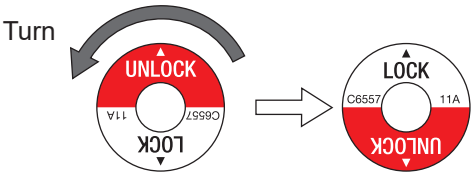
The brake on the operating table body will be released.



■ Brake release and fixing the operating table

When you want to use it again after the electrical trouble been fixed, follow the procedure below to release the brake and fix the operating table.

1. Turn the emergency brake release knob counterclockwise (to the left).



2. Press ENERGIZE first and then BRAKE UNLOCK on the hand controller for 1 second or more.

The operating table system recognizes the brake release status.

3. Press ENERGIZE first and then TABLE UP on the hand controller.

The operating table will be fixed.

8. Before contacting for repairs

■ Checking causes and countermeasures

The following problems can occur even if the operating table is not malfunctioning. Check the following points before requesting repairs.

Status	Possible cause	Measures
The table cannot be turned on.	The connector of the hand controller is not connected properly.	Insert the connector completely. (→Page 17)
	The battery may be low.	Charge the battery. (→Page 16)
A function switch on the hand controller does not function.	The connector of the hand controller is not connected properly.	Insert the connector completely. (→Page 17)
	You did not press the E switch before the function switch.	Press E switch first and then the function switch. (→Page 23 to 28)
	Motor may be overheated.	Wait for about 60 minutes to operate. (→Page 12)
The operating table cannot be fixed.	The emergency brake release knob is in “UNLOCK” position.	Turn the emergency brake release knob toward “LOCK.”(→Page 40)
	After releasing the brake by the emergency brake release knob, the brake has not been unlocked by the hand controller.	Unlock the brake by the hand controller. (→Page 40)
The operating table cannot be moved.	The auxiliary brake is fixed.	Unlock the auxiliary brake. (→Page 31)
The sliding cannot be operated.	The slide lock mechanism has not been reset.	Perform the reset operation. (→Page 29)
	The tabletop is not in the level position.	Reset it to the level position with the hand controller. (→Page 28)
The battery indicator is flashing red.	The battery is fully charged.	1. Unplug the power cord, then after operating the elevation function with battery power, turn the power switch back on. (→ Page 21, 27)
		2. Turn off the power switch, then after operating the elevation function with battery power, turn the power switch back on. (→ Page 21, 27)
	If the situation does not improve even if countermeasures 1. and 2. are implemented.	
	The battery’s fuse is blown.	Request repairs from your distributor or MIZUHO.

If the situation does not improve even if the above countermeasures are implemented, request repairs from your distributor or MIZUHO.

■ In case of malfunction

WARNING

- The operating table should only be serviced or maintained by MIZUHO or the certified providers. Make sure to contact your distributor or MIZUHO for maintenance or repairs.
- Do not disassemble the operating table. Unauthorized disassembling may cause a fire, electrical shock or malfunction.
- In order to prevent infections, make sure to clean and disinfect the operating table when requesting to have it repaired.

Implement the follow measures when the operating table malfunctions.

1. **Turn off the power and disconnect the power cord from the medical grade outlet.**
2. **Place an “Out of Order” or “Do Not Use” sign on the operating table.**

■ Warranty

MIZUHO Corporation will repair defective parts of this product without charge for one year from the date of delivery/installment except for cases of damage caused by a third party’s repair, act of nature, improper use or intentional damage. All other warranty terms and conditions are subject to regulations of MIZUHO Corporation.

App.-1 Electromagnetic Compatibility

Install and operate according to the EMC information provided in this manual.

WARNING

- Do not use any accessories other than those specified by MIZUHO.
  This can result in increased emissions and reduced immunity.
- Do not use it adjacent to or stacked with other equipment.
  Normal operation may not be possible due to electromagnetic interference.
- Before using other medical electronic devices (especially life support devices) to be used together, make sure that they will not malfunction due to electromagnetic interference.
  Normal operation may not be possible due to electromagnetic interference.

Guidelines and manufacturer declaration – electromagnetic emissions		
The VACB-3006B is intended for use in the electromagnetic environment specified below. The customer or user of the VACB-3006B must ensure that it is operated in suchlike environments.		
Electromagnetic interference measurements	**Compliance**	**Electromagnetic environment – guideline**
Harmonic emissions IEC 61000-3-2	Class A	The VACB-3006B is suitable for use in all establishments, other than domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	
RF emissions CISPR 11	Class A	
RF emissions CISPR 11	Group 1	The VACB-3006B uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.

Guidelines and manufacturer declaration – electromagnetic interference immunity			
The VACB-3006B is intended for use in the electromagnetic environment specified below. The customer or user of the VACB-3006B must ensure that it is operated in suchlike environments.			
Interference immunity tests	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment – guidelines**
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV contact discharge ± 2; 4; 8; 15 kV air discharge	± 8 kV contact discharge ± 2; 4; 8; 15 kV air discharge	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input and output lines	± 2 kV for power supply lines ± 1 kV for input and output lines	Power supply voltage quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 0.5; 1 kV differential mode voltage ± 0.5; 1; 2 kV common mode voltage	± 0.5; 1 kV differential mode voltage ± 0.5; 1; 2 kV common mode voltage	Power supply voltage quality should be that of a typical commercial or hospital environment.
Voltage drops, short interruptions and fluctuations in power supply voltage IEC 61000-4-11	0% U_T for 0.5 cycles 0% U_T for 1 cycles 70% U_T for 25/30 cycles 0% U_T for 250/300 cycles	0% U_T for 0.5 cycles 0% U_T for 1 cycles 70% U_T for 25/30 cycles 0% U_T for 250/300 cycles	Power supply voltage quality should be that of a typical commercial or hospital environment. If the user of the VACB-3006B need to continue operation during a main power interruption, it is recommended that the VACB -3006B be powered by an uninterruptible power supply or battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
Info: U_T is the AC voltage before application of the test level.			

<table>
<tr><th colspan="4">Guidelines and manufacturer declaration – electromagnetic interference immunity (continuation)</th></tr>
<tr><td>Conducted disturbances induced by radiated RF
IEC 61000-4-6</td><td>150 kHz to 80 MHz
3 V

ISM frequencies
6 V</td><td>150 kHz to 80 MHz
3 V

ISM frequencies
6 V</td><td rowspan="2">Portable and mobile RF communications equipment (radio devices, incl. antennas or cables) should be used no closer to any part of the VACB-3006B than the recommended safety distance of 300 mm (12 in).

The field strengths from fixed RF transmitters, as determined by field surveys of electromagnetic fields, should be less than a compliance level of 3 V/m in each frequency range.

Interference may occur in the vicinity of equipment marked with the following symbol:

  </td></tr>
<tr><td>Interference due to radiated RF
IEC 61000-4-3</td><td>80 MHz to 2.7 GHz
3 V/m

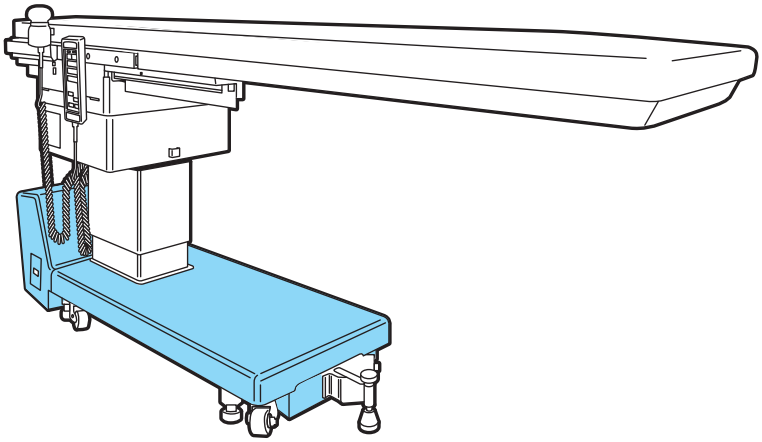
Wireless communication frequency band
<table><tr><th>V/m</th><th>MHz</th></tr><tr><td>27</td><td>385</td></tr><tr><td>28</td><td>450</td></tr><tr><td>9</td><td>710</td></tr><tr><td>9</td><td>745</td></tr><tr><td>9</td><td>780</td></tr><tr><td>28</td><td>810</td></tr><tr><td>28</td><td>870</td></tr><tr><td>28</td><td>930</td></tr><tr><td>28</td><td>1720</td></tr><tr><td>28</td><td>1845</td></tr><tr><td>28</td><td>1970</td></tr><tr><td>28</td><td>2450</td></tr><tr><td>9</td><td>5240</td></tr><tr><td>9</td><td>5500</td></tr><tr><td>9</td><td>5785</td></tr></table></td><td>80 MHz to 2.7 GHz
3 V/m

Wireless communication frequency band
<table><tr><th>V/m</th><th>MHz</th></tr><tr><td>27</td><td>385</td></tr><tr><td>28</td><td>450</td></tr><tr><td>9</td><td>710</td></tr><tr><td>9</td><td>745</td></tr><tr><td>9</td><td>780</td></tr><tr><td>28</td><td>810</td></tr><tr><td>28</td><td>870</td></tr><tr><td>28</td><td>930</td></tr><tr><td>28</td><td>1720</td></tr><tr><td>28</td><td>1845</td></tr><tr><td>28</td><td>1970</td></tr><tr><td>28</td><td>2450</td></tr><tr><td>9</td><td>5240</td></tr><tr><td>9</td><td>5500</td></tr><tr><td>9</td><td>5785</td></tr></table></td></tr>
<tr><td colspan="4">Info: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from buildings, objects and people.</td></tr>
<tr><td colspan="4">The field strengths from fixed transmitters, such as wireless (cellular/cordless) telephones and mobile terrestrial radio base stations, amateur radio, AM/FM radio broadcasts and TV broadcasts cannot be accurately and theoretically predicted. In order to confirm the electromagnetic environment caused by the fixed RF transmitter, it is desirable to consider an electromagnetic field survey. If the measured field strength exceeds the compliance level as specified above at the location where the VACB-3006B is used, the VACB-3006B should be observed to verify correct functionality. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the VACB-3006B.</td></tr>
</table>

App.-2 Glossary

Base

The light-blue portion of the figure below.

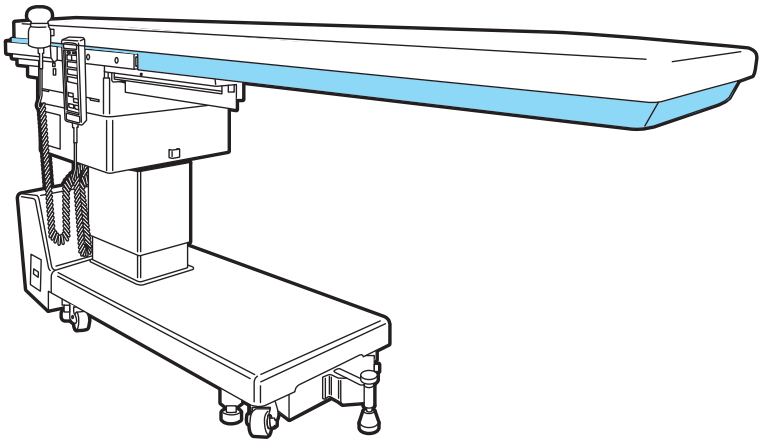


Lateral tilt

Tabletop of the operating table moves to the left-down or the right-down position.

Tabletop

The light-blue portion of the figure below.



Trendelenburg

Tabletop of the operating table moves to the head-up or the head-down position.

Revision Record

2017-07-04	Ver.1	New release
2018-02-27	Ver.2	Revision
2019-05-20	Ver.3	Revision
2023-07-14	Ver.4	Revision
2024-08-14	Ver.5	Revision
2024-12-25	Ver.6	Revision

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