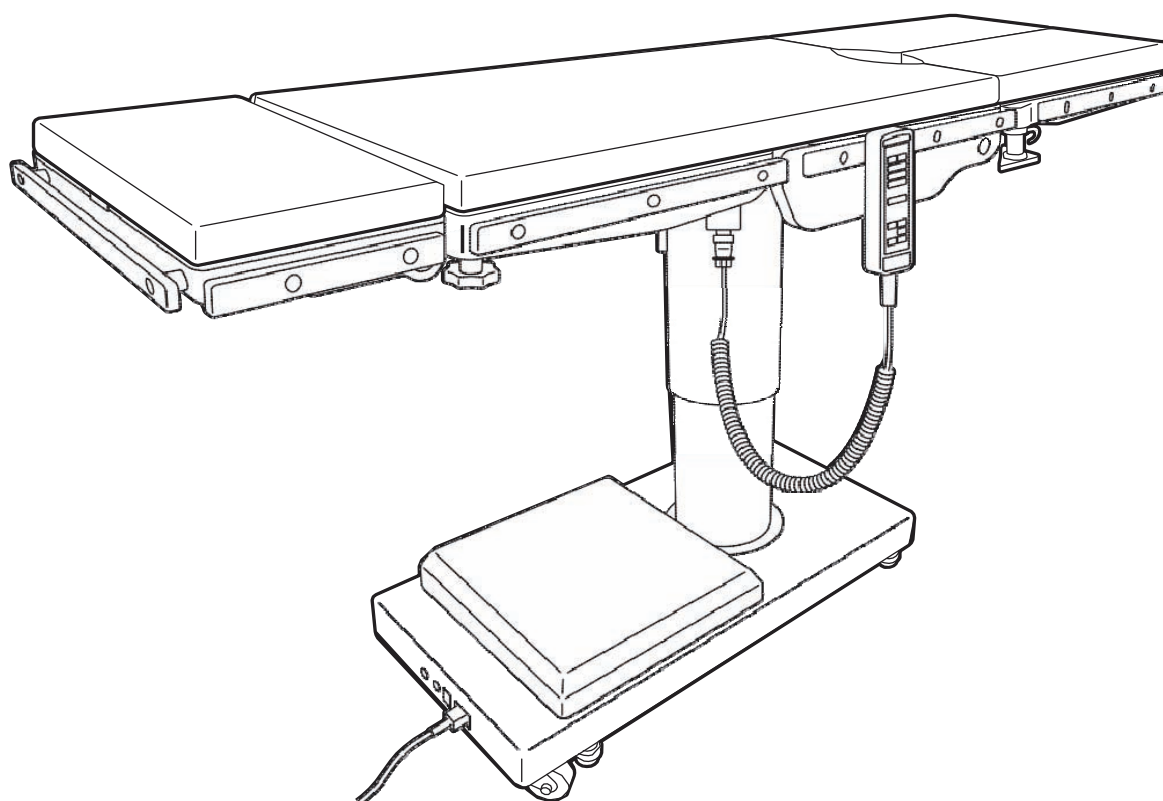




## **Operating Table MOT-1602BW**

### **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.

# Table of contents

<b>1.</b>	<b>Introduction .....</b>	<b>1</b>
1.1	This manual .....	1
1.2	Intended use and this product .....	1
1.3	Accessories .....	2
<b>2.</b>	<b>Safety precaution .....</b>	<b>3</b>
2.1	Read thoroughly before using .....	3
2.2	Labeling .....	8
<b>3.</b>	<b>Section Introduction .....</b>	<b>12</b>
3.1	Main unit .....	12
3.2	Control unit .....	13
<b>4.</b>	<b>Operation .....</b>	<b>14</b>
4.1	Installation and battery charging .....	14
4.2	Turning on/off the power .....	17
4.3	Fixing and unfixing the operating table .....	19
4.4	Tilting the tabletop laterally .....	20
4.5	Trendelenburg .....	21
4.6	Tilting the back plate .....	22
4.7	Changing the tabletop height .....	23
4.8	Flexing or reflexing the tabletop .....	24
4.9	Returning to level .....	25
4.10	Adjusting the head plate .....	26
4.11	Adjusting the leg plate .....	28
4.12	Turning the tabletop .....	30
<b>5.</b>	<b>Maintenance and inspection .....</b>	<b>31</b>
5.1	Inspection before and after use .....	31
5.2	Periodic replacement parts .....	33
<b>6.</b>	<b>Specification .....</b>	<b>34</b>
6.1	Specification table .....	34
6.2	External view .....	35
<b>7.</b>	<b>Troubleshooting .....</b>	<b>36</b>
<b>8.</b>	<b>Before contacting for repairs .....</b>	<b>37</b>
<b>App.</b>	<b>Electromagnetic Compatibility .....</b>	<b>39</b>

# 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, inspect, adjust and maintain 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, serious 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, inspecting and maintaining, 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, inspections and repairs which are not contained in this manual.

## 1.2 Intended use and this product

This product is an 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.

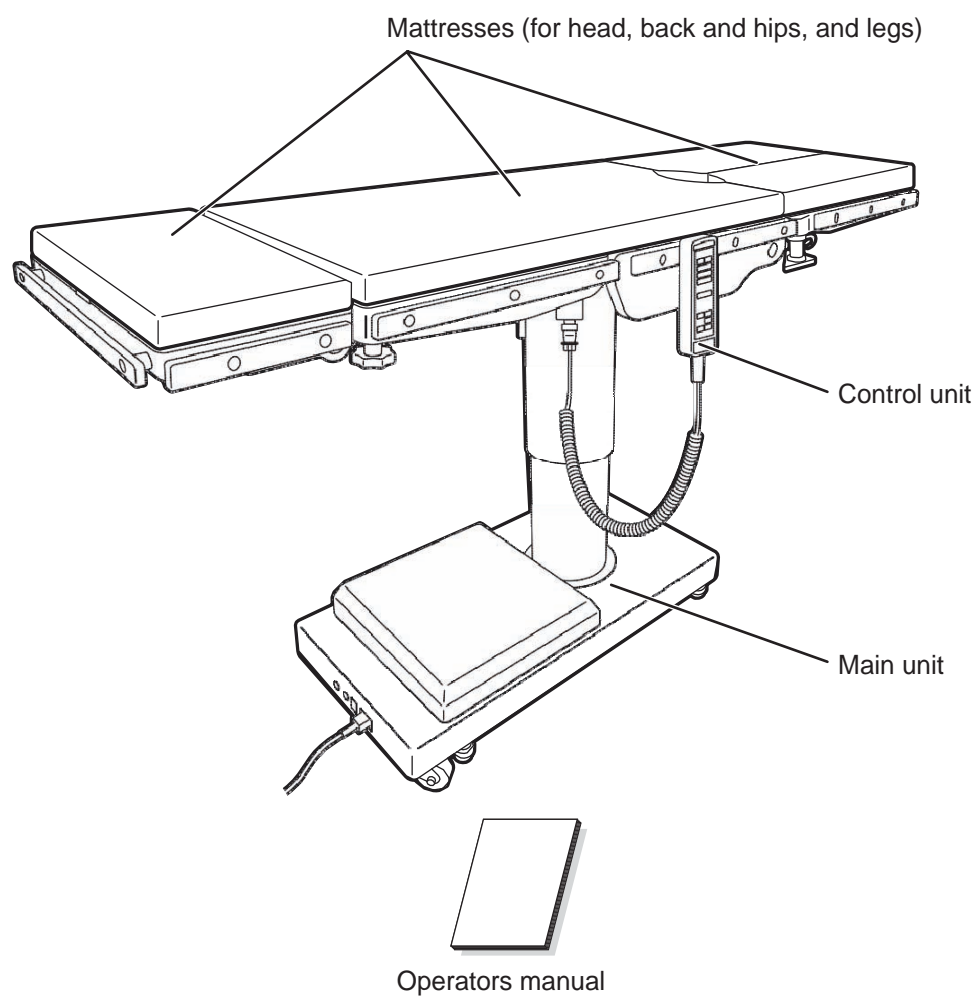
In the operating room, have physicians, nurses and medical device technicians who are acquainted with the usage of this product use it.

## 1.3 Accessories

1

Introduction

### ■ Standard components and accessories



## 2. Safety precaution

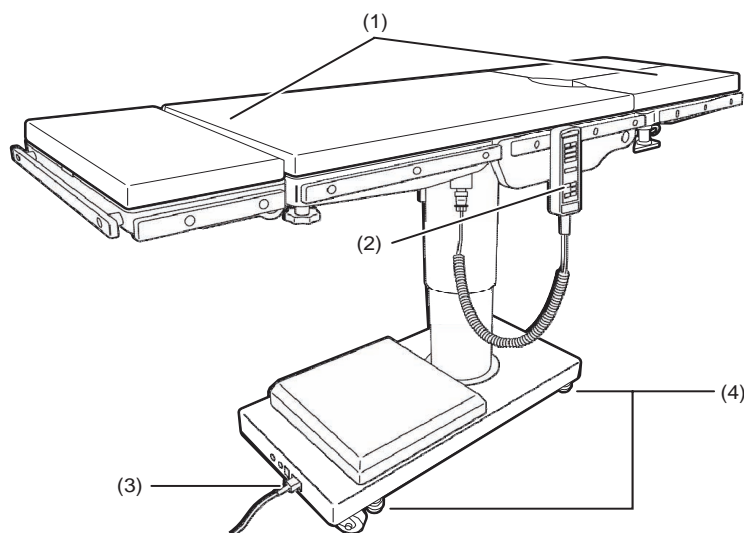
### 2.1 Read thoroughly before using

2

Safety precaution

Never perform the following when you use the product.

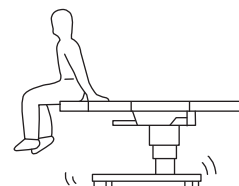
Otherwise, damage to the operating table, electrical shock, and/or fire may occur.



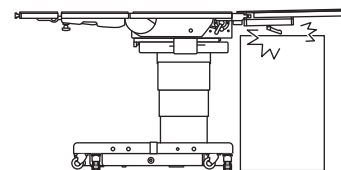
#### (1) Head plate and leg plate



Do not step or sit on the head plate or the leg plate(s).  
The operating table may tip over resulting in injury.



Before lowering the table or placing it in a reverse Trendelenburg position, check if there are any devices under the leg plates.  
If the leg plates come in contact with devices that are to be subjected to excessive force, the leg plate insertion shaft may be damaged.



When transferring a patient from a surgical bed (Fig. a) or changing a patient's body position (Fig. b), do not apply excessive force to the head plate or leg plate.  
The operating table may get deformed or damaged.

Fig. a

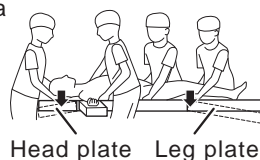
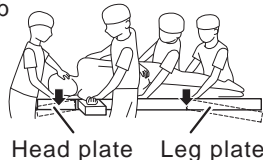


Fig. b



## (2) Control unit

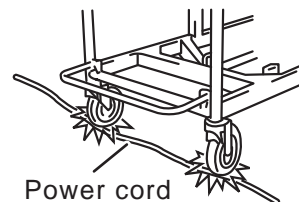


- Do not forcibly pull on the control unit cord.
- Do not subject the control unit to strong shocks. The control unit may get damaged.

## (3) Power cord



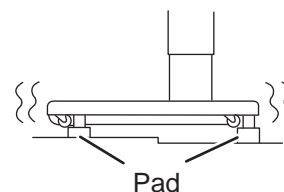
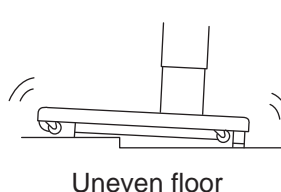
- Do not place any heavy objects on the power cord.
- Do not roll over the power cord with a casted device.
- Do not forcibly pull on the power cord.
- Do not place any objects in the place where the power cord is to be unplugged from the medical grade outlet, which would obstruct it from being unplugged.



## (4) Installation of the operating table



- 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.



## ■ Patient's position during surgical operation



- Make sure to always securely attach the mattresses to the operating table so that they do not come off.  
The mattresses may come off, and the patient may get injured.
- Position the patient's body 1 cm or more away from the metal side rail. The side rail may produce high temperatures, which may result in a burn injury.

### ● Positioning the patient

Follow the steps below to position the patient.

**1.** Attach the mattresses to the tabletop.

**2.** Put the patient on the mattresses.

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



- **Prohibited**
  - Do not disassemble and/or modify the operating table. Otherwise, malfunction may occur.
- **Other medical electrical equipment to be used together with the operating table**
  - Before use, check that the operating table does not malfunction due to electromagnetic interference from the equipment.  
Medical electrical equipment to be used together with the operating table may generate electromagnetic interference, which may result in malfunctioning of the operating table.
- **When using a high-frequency surgical equipment and/or a cardiac defibrillator, refer to their operator's manual provided by the manufacturers. Improper usage may cause the operator and the patient to get burned and/or devices to malfunction.**
- **Patient position**
  - When using the tabletop or accessories to secure a patient's body position, always observe the patient's condition.
  - Neuroparalysis may occur to the patient.
- **Allowable load**
  - Do not apply a load which exceeds the allowable load\*. The operating table may not function, which may result in failures.  
\* Lift: 360 kg / Lifts other than: 270 kg
- **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 conditions and frequency usage.
  - For preventive maintenance and inspections, contact your distributor or Mizuho directly.
- **The usage of high-frequency surgical equipment**
  - When using a high-frequency surgical equipment and/or a cardiac defibrillator, refer to the operator's manual provided by the manufacturers. Improper use causes burn injuries to the operator and the patient.
- **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, operating table, devices, and/or accessories may get damaged.
- **Cleaning and disinfection**
  - After using the operating table, make sure to follow the steps below to clean up and disinfect the operating table.
    1. Turn off the power and disconnect the power cord from the medical grade outlet.
    2. Detach all the mattresses from the operating table.
    3. Use a lint-free cloth soaked with proper volume of disinfectant to wipe off the upper, side, and back side of the mattresses.
    4. As with step 3, disinfect the surfaces of the tables and side rails.
    5. Wipe off the operating table with a clean dry cloth 15 minutes after disinfecting it.
  - Make sure to use Mizuho authorized disinfectants. The disinfectants are as shown below.

1	Sodium hypochlorite 0.1% (halogen containing compound)
2	Sodium thiosulfate
3	Chlorhexidine (chlorhexidine gluconate 0.5%)
4	Benzalkonium chloride (invert soap 10%)
5	Povidone iodine
6	Ethanol 80%
7	Hydrogen peroxide
8	Saline (0.9%)
9	Isopropyl alcohol (IPA)



**CAUTION**

- 
- Moving and transporting
  - 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.
    - Disinfect the entire operating table before transporting it.
    - Take measures to prevent it from tipping over, such as lowering the tabletop to the bottom position.
    - Actuate the brake.
    - Suitably position cushioning on the product to prevent it from getting damaged during transport.
    - Store the product in a container so that it does not get exposed to dust, and the weather.
  - Transitable height and width: height 10 mm / width 80 mm
  - Disposal cautions
    - Always follow the local country regulation in disposing the operating table.
-

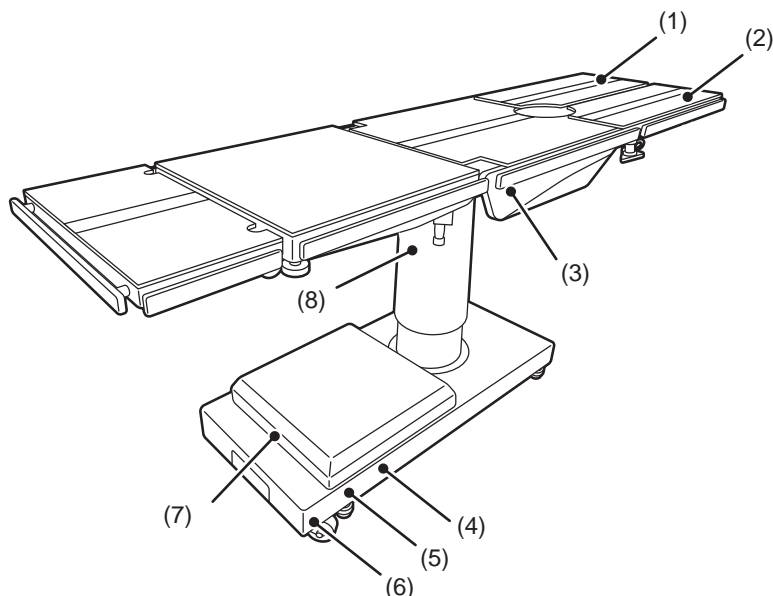
## 2.2 Labeling

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

2

Safety precaution

### Warning and Caution labels



(1) C651608□

⚠ MISE EN GARDE
NE PAS S'ASSOIR SUR LE(S) BORD(S) DE LA TABLE CAR UNE CHARGE DE PLUS DE 63 KG (140 LBS) PEUT ENTRAÎNER UNE INSTABILITÉ ET FAIRE BASCULER LA TABLE.

(2) C651607□

⚠ WARNING
DO NOT SIT ON END OF LEG SECTION(S) AS LOADS IN EXCESS OF 140 LBS (63 KG), WILL CAUSE INSTABILITY THAT COULD CAUSE THE TABLE TO BE TIPPED OVER.

(3) 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'un malade ne touche pas le rail du côté.

(4) C656741□

NOTE	REMARQUE
GROUNDING RELIABILITY CAN ONLY BE ACHIEVED WHEN THE EQUIPMENT IS CONNECTED TO AN EQUIVALENT RECEPTACLE MARKED "HOSPITAL ONLY" OR "HOSPITAL GRADE".	LA FIABILITÉ DE MISE À LA TERRE NE PEUT ÊTRE OBTENUE QUE LORSQUE L'ÉQUIPEMENT EST CONNECTÉ À UNE PRISE ÉQUIVALENTE REPÉRÉE "HÔPITAL UNIQUEMENT" OU "QUALITÉ HÔPITAL".

(5) C656740□

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

(6) C656738□

⚠ DANGER	⚠ DANGER
POSSIBLE EXPLOSION HAZARD IF USED IN THE PRESENCE OF FLAMMABLE ANESTHETICS.	POSSIBILITÉ D'EXPLOSION EN CAS D'UTILISATION EN PRÉSENCE D'ANESTHÉSIAQUES INFLAMMABLES.

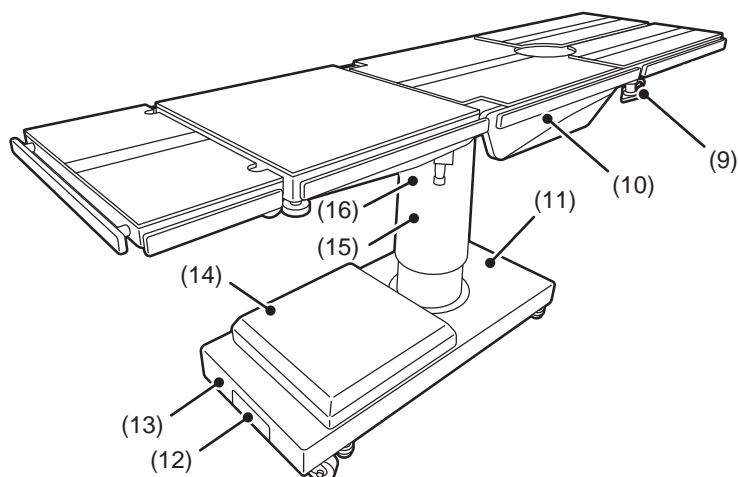
(7) C651613□

⚠ REPLACE BATTERIES ONLY WITH MIZUHO REPLACEMENT PART 12V-17.2Ah
--

(8) C656309□

TABLE TOP	PLATEAU DE LA TABLE
⚠ WARNING	⚠ MISE EN GARDE
ALWAYS LOCK THE TABLE TOP IN POSITION AFTER A FULL ROTATION OF 180°. DO NOT ROTATE THE TOP WITH AN UNDISTRIBUTED PATIENT LOAD AS INSTABILITY MAY RESULT. EXERCISE CAUTION WITH THE TABLE TOP ROTATED 90° TO THE BASE SINCE AN IMPROPERLY DISTRIBUTED PATIENT LOAD MAY CAUSE THE TABLE TO BE TIPPED OVER.	TOUJOURS MAINTENIR LA TABLE EN POSITION FERMÉE APRÈS UNE ROTATION COMPLÈTE À 180°. NE PAS FAIRE TOURNER LE PLATEAU AVEC UNE CHARGE DE PATIENT NON RÉPARTIE CAR CELA POURRAIT ENTRAÎNER UNE INSTABILITÉ. FAIRE PRUEVE DE VIGILANCE LORSQUE LE PLATEAU DE LA TABLE TOURNE À 90° CAR UNE CHARGE DE PATIENT NON RÉPARTIE UNIFORMÉMENT POURRAIT FAIRE BASCULER LA TABLE.

## Other labels (1/2)



(9) C600516□



(10) C651609□



(11) C651615□



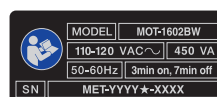
(12) C651618□



(13) C653618□



(14) C653623□



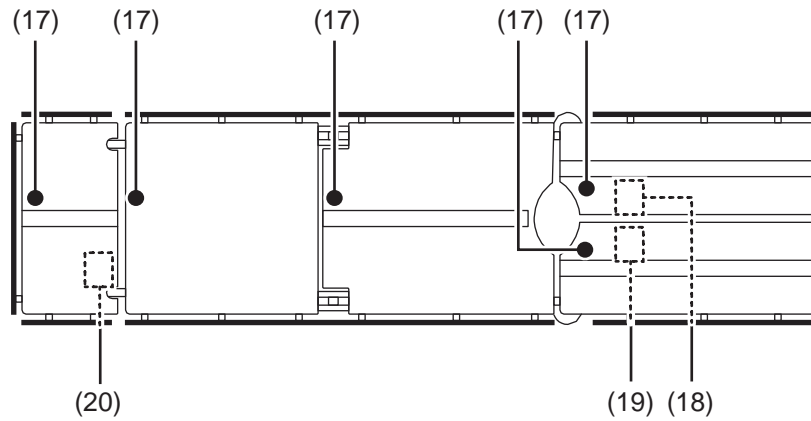
(15) C651605□



(16) C610501□



## Other labels (2/2)



(17) C653620□



(18) C651616□



(19) C651617□



(20) C651612□



or C651626□



or C651627□



or C651612□



or C646058□










or C646059□



or C646057□

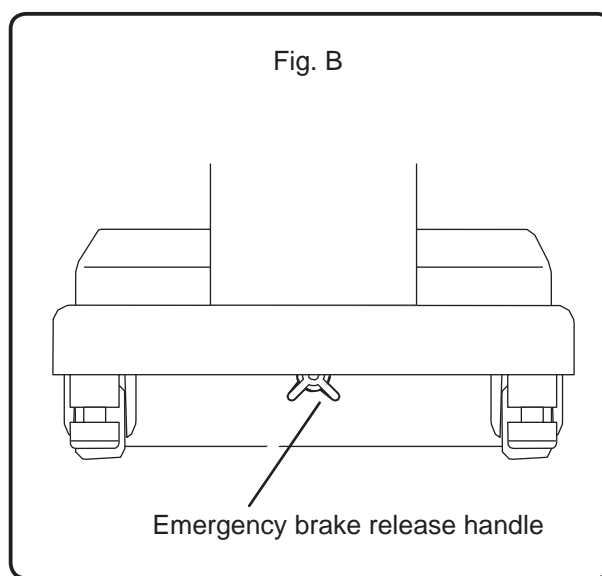
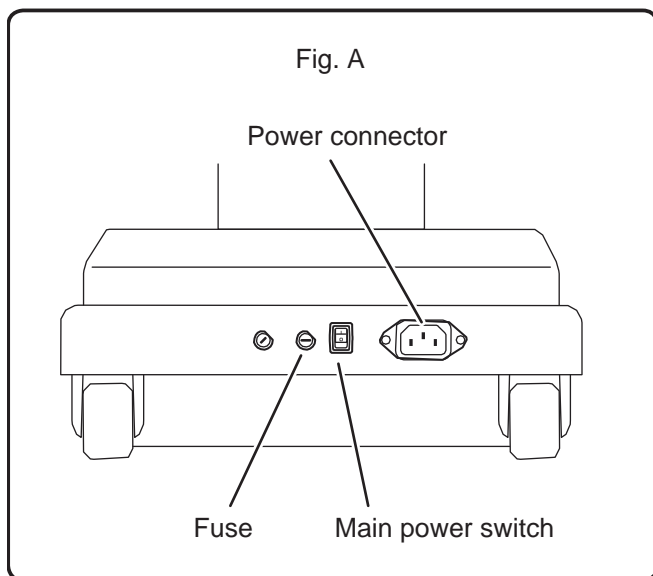
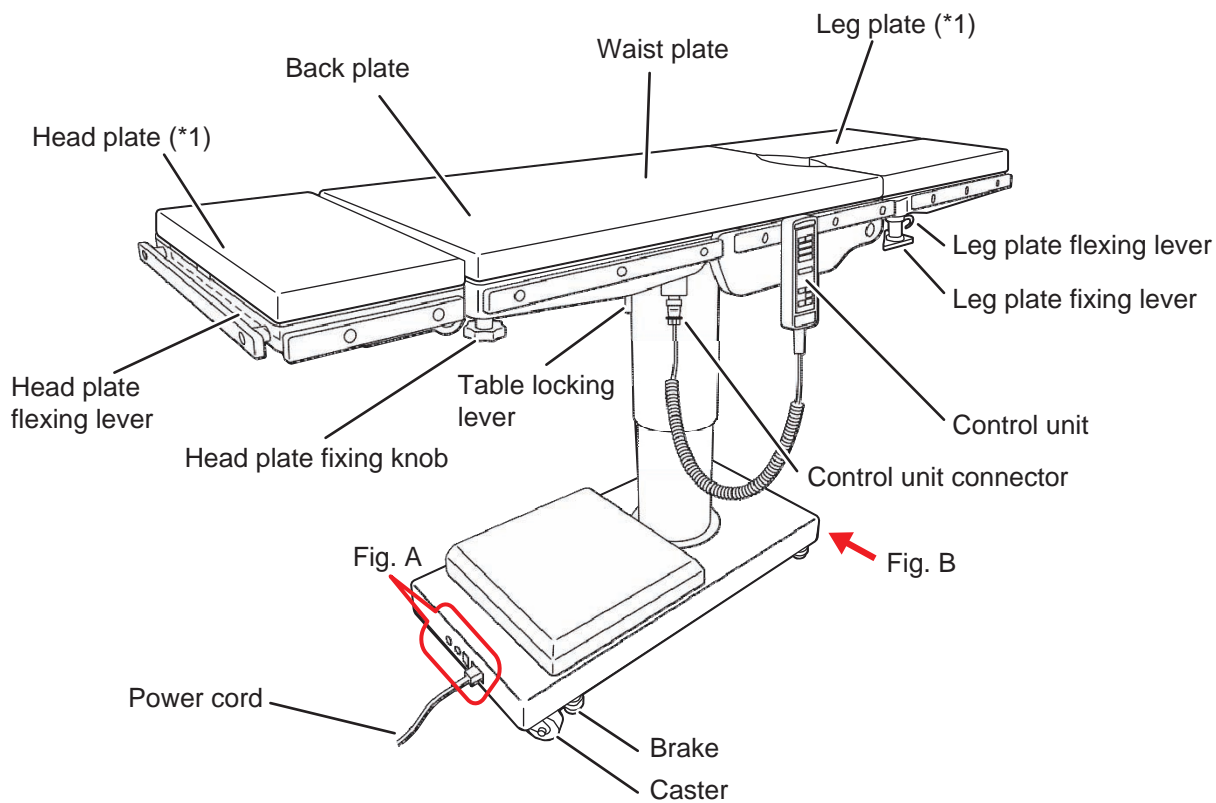


## ■ Labeling list

Symbol	Description	Label no.
	Indicates a possibility of injury or even death if operates the table without following the warning.	(1) (2) (3) (5) (6) (7) (8)
	General prohibition sign	(5)
	General mandatory action sign.	(5) (6)
	Refer to the operators manual	(5) (13) (14) (15)
IPX4	Enclosure Class (Splash-proof)	(13)
REF	Catalogue Number	(13)
	Indicates waste disposal information.	(13)
	Indicates AC power supply.	(13) (14)
SN	Serial number	(13) (14)
	Indicates protection against electric shock and defibrillator (Class B).	(17)

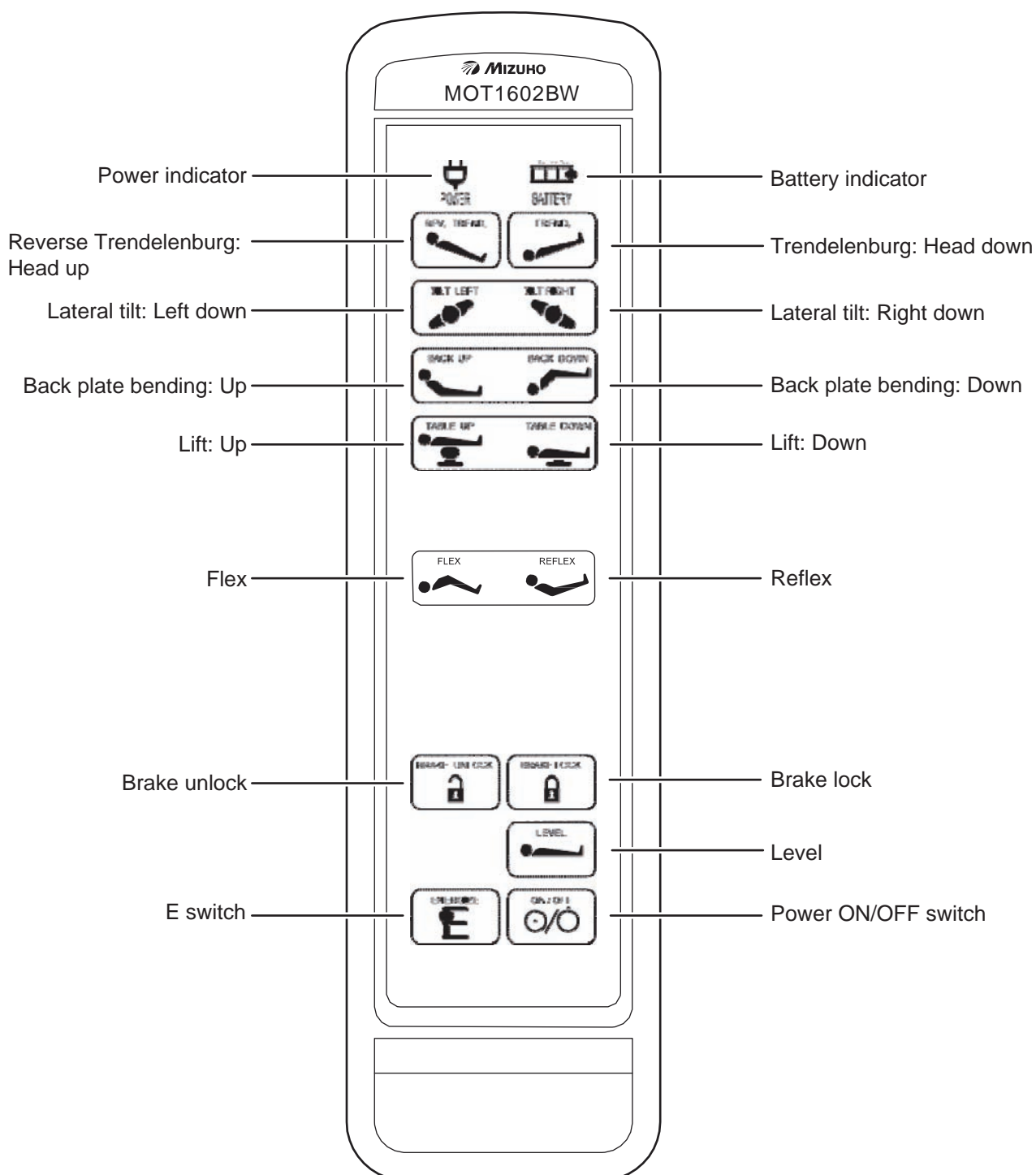
# 3. Section Introduction

## 3.1 Main unit



\*1: The head plate and the leg plate are detachable.

## 3.2 Control unit



### NOTE

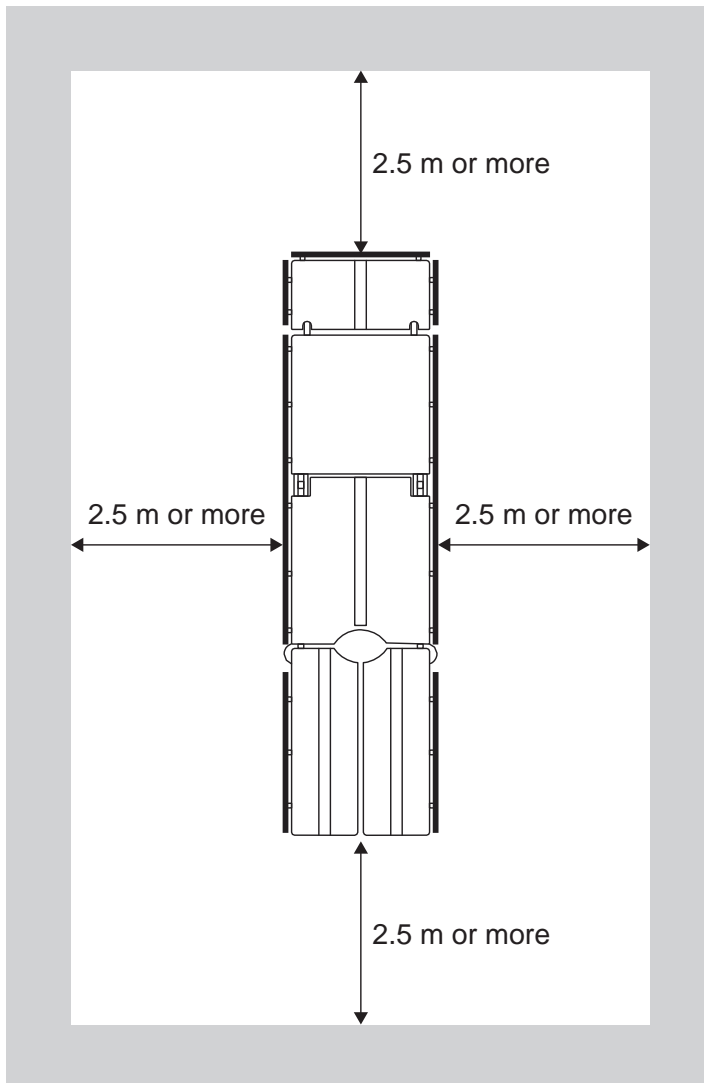
- The switches other than the E switch continue to function while being pressed.
- If a switch is continuously pressed for 3 minutes or more, its operation is halted. The halt condition continues for about 7 minutes. Switches other than the halted switch can be operated as usual.

## 4. Operation

### 4.1 Installation and battery charging

#### ■ Installation space

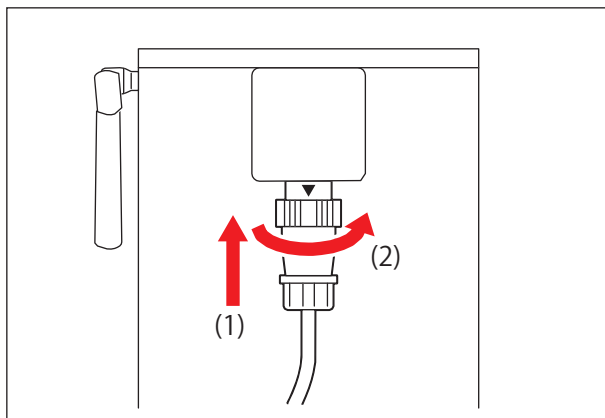
This product requires the installation space shown as below.





## ■ Attaching the control unit

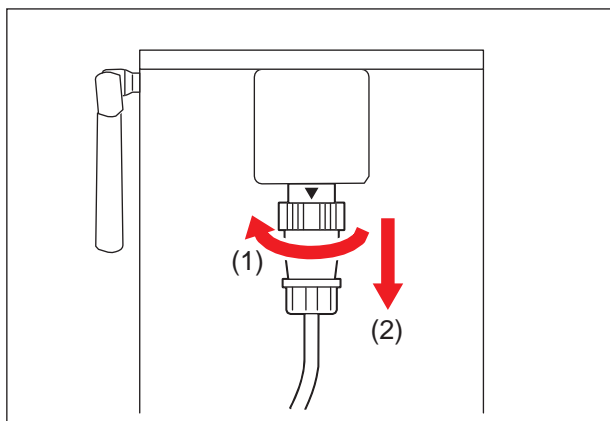
1. Align the connector with the guide and insert it into the receptacle properly.
2. Turn the connector ring in the direction of the arrow until it stops.



## ■ Detaching the control unit

When you replace the control unit, detach the connector from the receptacle.

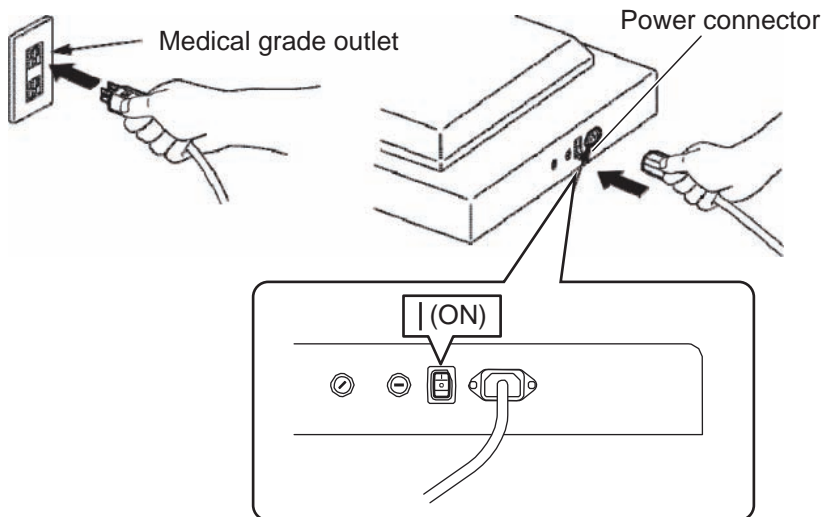
1. Turn the connector ring in the direction of the arrow until it stops.
2. Pull out the connector.



## ■ Charging the battery

Make sure to charge the battery when initially using the purchased product, or when it has not been used for a long time.

### 1. Connect the power connector and the medical grade outlet with the power cord, and turn on the power switch.



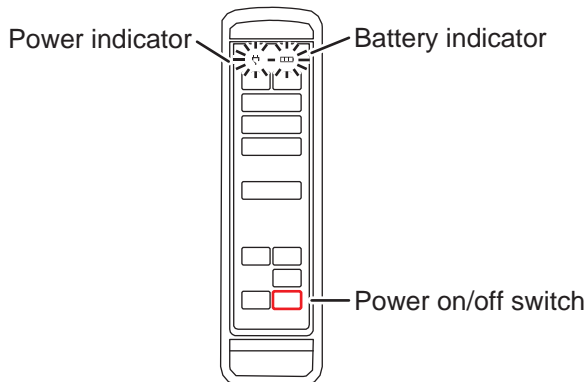
#### NOTE

- The battery naturally discharges itself when it is not being used and is being stored. Make sure to charge the battery before use.
- If all the battery indicators do not light up even after the battery is charged or the battery gets discharged soon, the battery may degrade. Request repairs from your distributor or Mizuho.

### 2. Press the power on/off switch.

Battery charging starts.

The power indicator lights and the battery indicator blinks showing the battery charge level reaching 30%, 75% and 100% in that order.

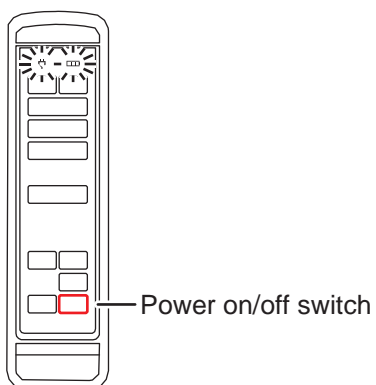


## 4.2 Turning on/off the power

### ■ Turning on the power

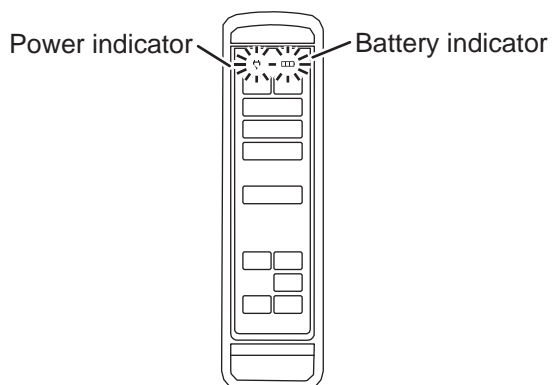
1. Turn on the power switch.
2. Press  of the control unit.

The power indicator lights and battery indicator blinks



3. Check the battery lamp.

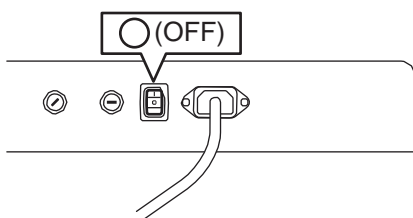
If the power indicator and the battery indicator of the control unit blinks, battery charging is necessary.



## ■ Turning off the power

### 1. Turn on the power switch.

The power indicator and battery indicator go out, and then the power is turned off.



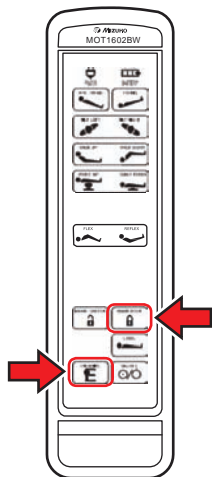
## 4.3 Fixing and unfixing the operating table

### ■ Fixing the operating table

Before you operate the operating table, activate the brake to fix the operating table.

1. Hold down  and press .

The brake is activated to fix the operating table.



#### NOTE

- If the brake cannot be activated and the operating table is not fixed, refer to "Troubleshooting".
- Operations such as raising the tabletop will not operate until the fixing of the tabletop is completed.



After activating the brake, check that the operating table is fixed securely.

### ■ Unfixing the operating table

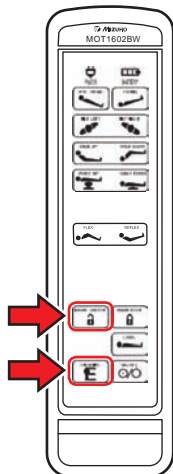
To move the operating table, unfix the operating table.



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

1. Hold down  and press  for one second or more.

The brake is released for unfixing the operating table.

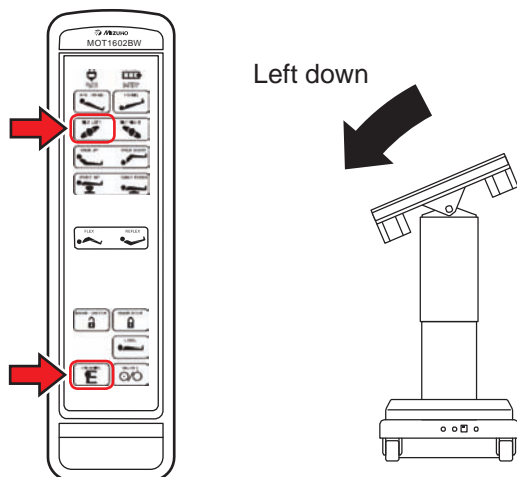


## 4.4 Tilting the tabletop laterally

### ■ Tilting to the left

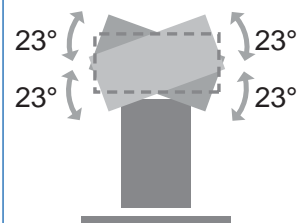
1. Hold down  and press .

The tabletop tilts to the left in the view from the head side.



#### NOTE

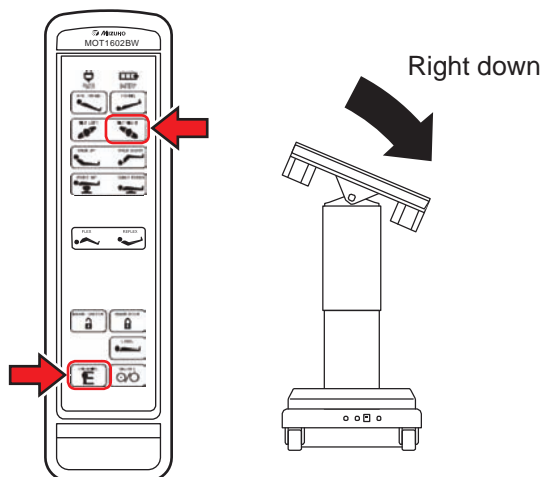
The maximum angle achieved in the right down and left down position is 23° to the level position.



### ■ Tilting to the right

1. Hold down  and press .

The tabletop tilts to the right in the view from the head side.

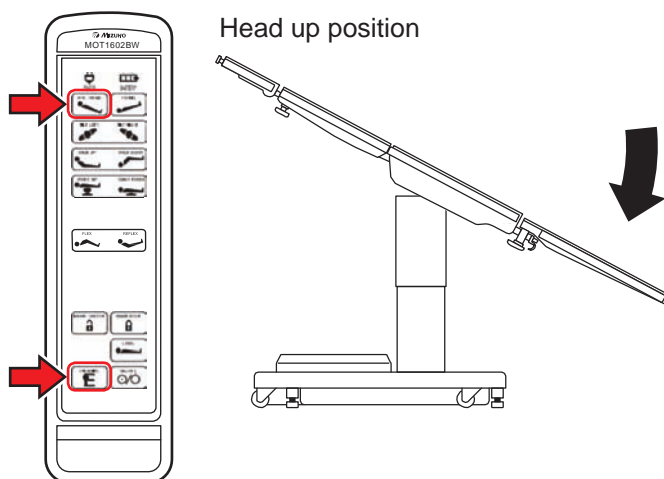


## 4.5 Trendelenburg

### ■ Reverse Trendelenburg (Head up)

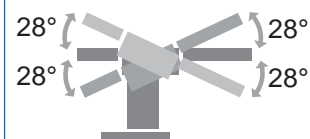
1. Hold down  and press .

The tabletop moves to the head up position.



#### NOTE

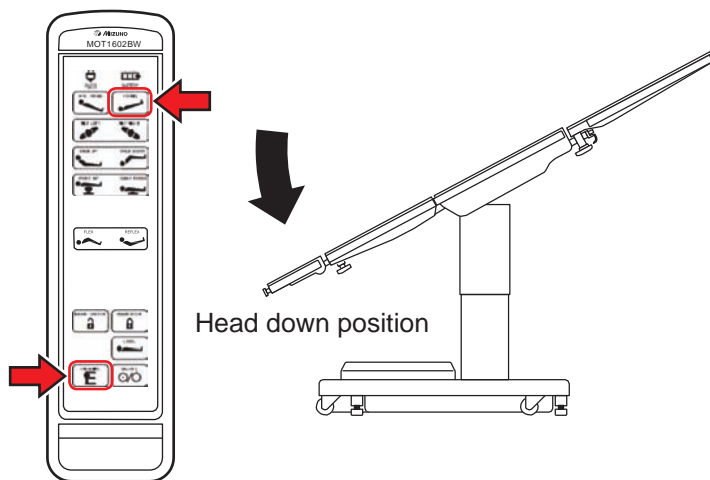
The maximum angle of head up or head down is 28 degrees from the level position.



### ■ Trendelenburg (Head down)

1. Hold down  and press .

The tabletop moves to the head down position.

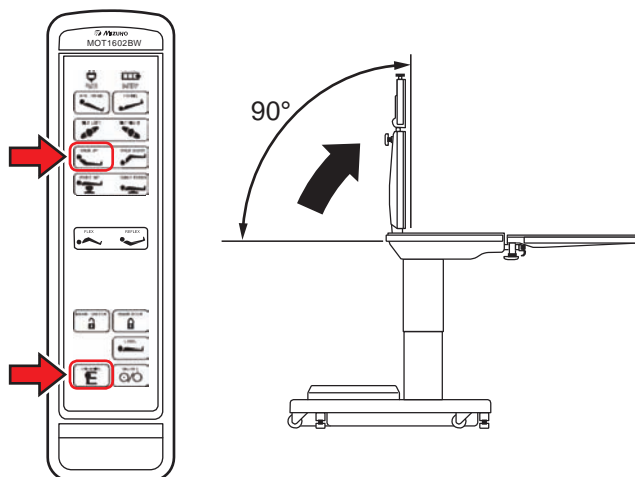


## 4.6 Tilting the back plate

### ■ Moving up the back plate

1. Hold down  and press .

The back plate moves up.



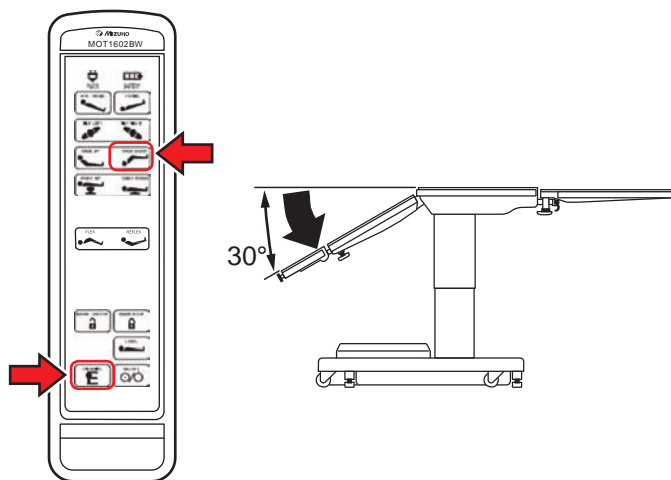
#### NOTE

- The maximum angle achieved in the back plate up position is 90° to the level position.
- The maximum angle achieved in the back plate down position is 30° to the level position.

### ■ Moving down the back plate

1. Hold down  and press .

The back plate moves down.



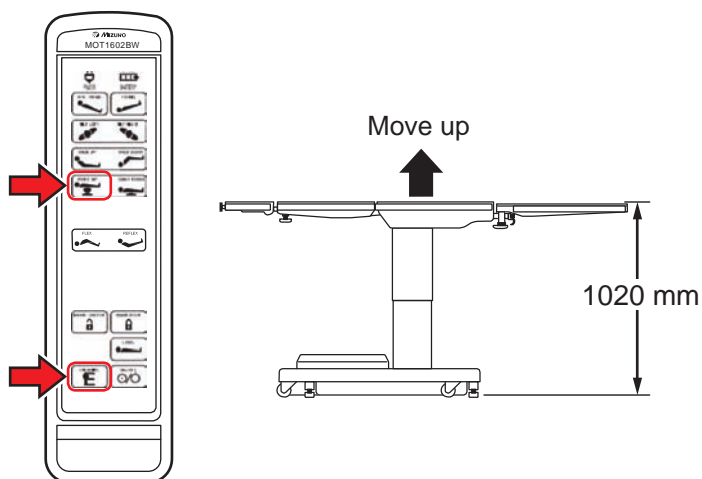


## 4.7 Changing the tabletop height

### ■ Moving up the tabletop

1. Hold down  and press .

The tabletop moves up.



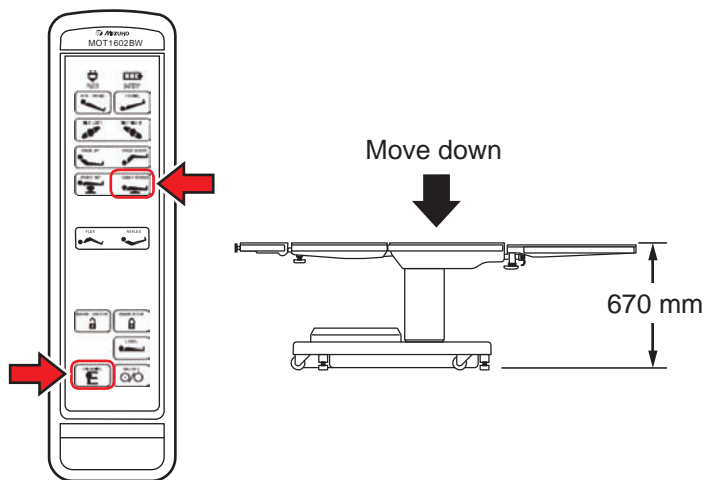
#### NOTE

- The maximum height from the floor to the tabletop upper surface is 1020 mm.
- The minimum height from the floor to the tabletop upper surface is 670 mm.

### ■ Moving down the tabletop

1. Hold down  and press .

The tabletop moves down.

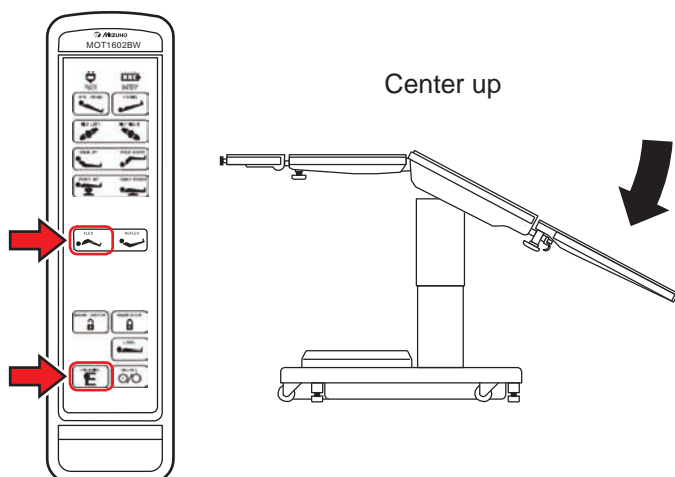


## 4.8 Flexing or reflexing the tabletop

### ■ Flexing the tabletop (center up)

1. Hold down  and press .

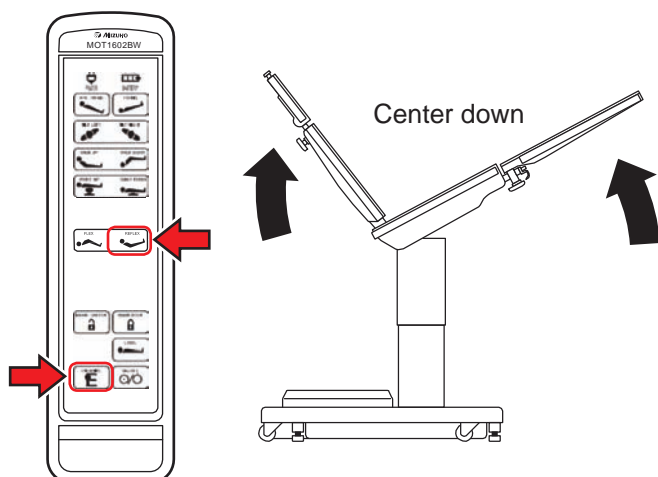
The back plate flexes downward and the waist plate turns to the Trendelenburg head up position.



### ■ Reflexing the tabletop (center down)

1. Hold down  and press .

The back plate reflexes upward and the waist plate turns to the reverse Trendelenburg head down position.

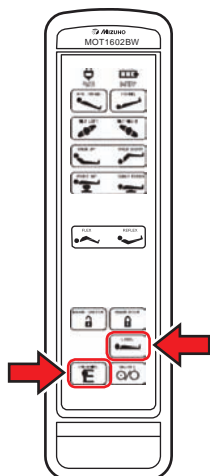


## 4.9 Returning to level

### ■ Returning the tabletop to level position

1. Hold down  and press .

The tabletop returns to the level position after Trendelenburg, lateral tilting, back plate tilting, and flexing are worked.



#### NOTE

Raising, and braking do not function.

## 4.10 Adjusting the head plate

The head plate can be flexed in 15° increments, to 4 different positions upward (maximum 60°) and to 6 different positions downward (maximum 90°). The head plate can also be detached.

### ■ Flexing the head plate



**WARNING** Make sure to tighten the head plate fixing knob securely.  
If the head plate moves, the patient may get injured.

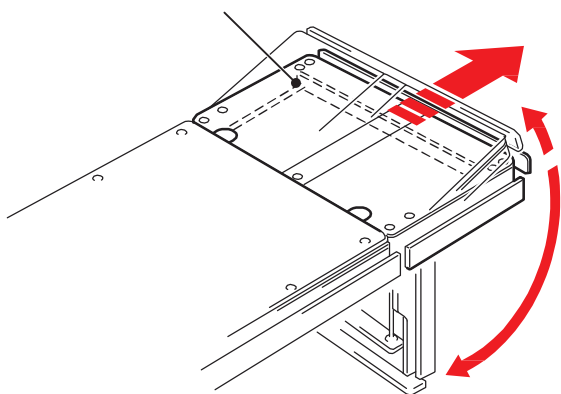
#### 1. Pull the head plate flexing lever in the head direction.

The head plate can be flexed upward and downward.

#### 2. Flex the head plate and then release the lever.

The head plate is fixed in that position.

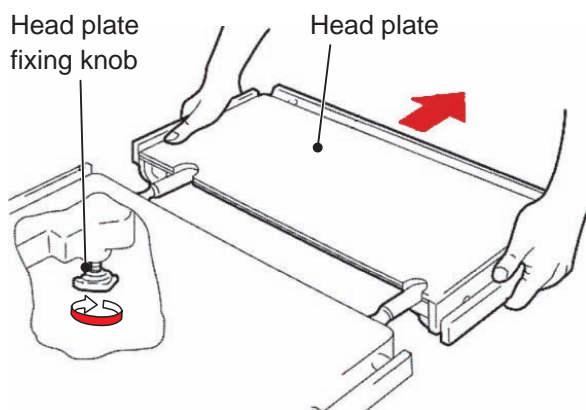
Head plate flexing lever



### ■ Detaching the head plate

#### 1. Loosen the two head plate fixing knobs located on the lower side of the back plate.

#### 2. Hold the both sides of the head plate firmly and pull it straight.



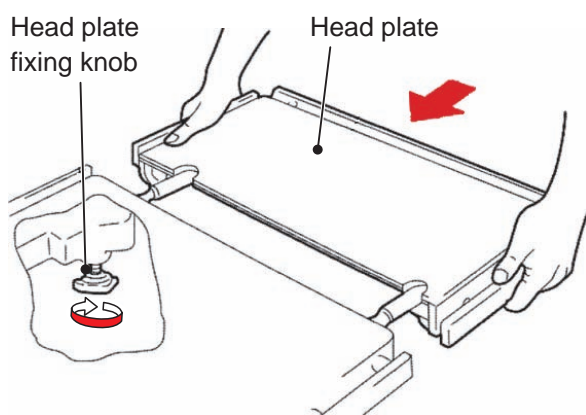
## ■ Attaching the head plate



### WARNING

Make sure to tighten the head plate fixing knobs securely.  
If the head plate moves, the patient may get injured.

1. Hold the both sides of the head plate firmly and align the insertion shaft of the head plate with the reception hole in the back plate, and insert.
2. After checking that the head plate is completely inserted, tighten the two head plate fixing knobs located on the lower side of the back plate.



### CAUTION

Insert the head plate into the back plate. If the operating table is used with the head plate inserted incompletely, it may get damaged.

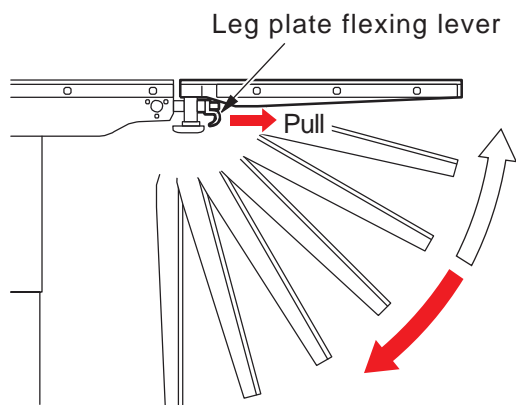
## 4.11 Adjusting the leg plate

The leg plates are flexible, outward stretchable, and detachable.

### ■ Flexing the leg plate

The right and left leg plates are independently flexible up to 90°.

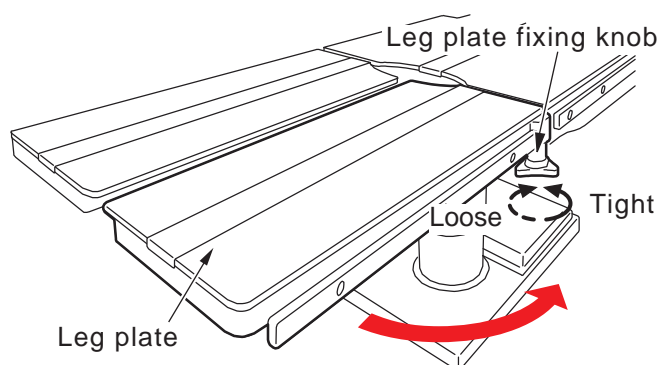
1. Pull the leg plate flexing lever toward the leg side, and then push the leg plate downward.
2. To reset the leg plate to the horizontal position, hold and bring up the tip of the leg plate.



### ■ Outstretching the leg plates

The leg plates are stretchable outward up to 90°.

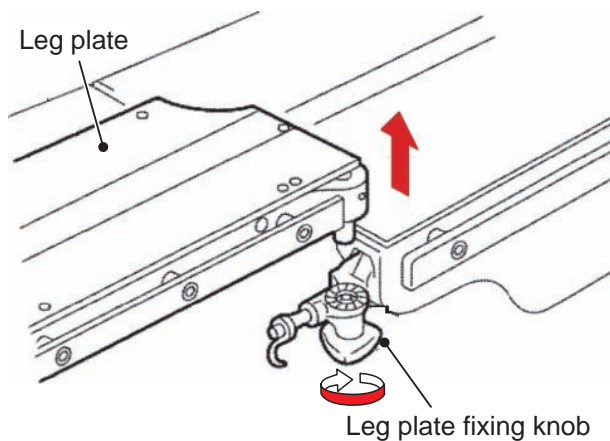
1. Turn leg plate fixing knob one revolution and a half, and loosen the leg plate fixing knob.
2. Pull the leg plates outward.
3. At the setting position, tighten the leg plate fixing knob to fix.



Make sure to lock the leg plate fixing knob. If the leg plates move, the patient may get injured.

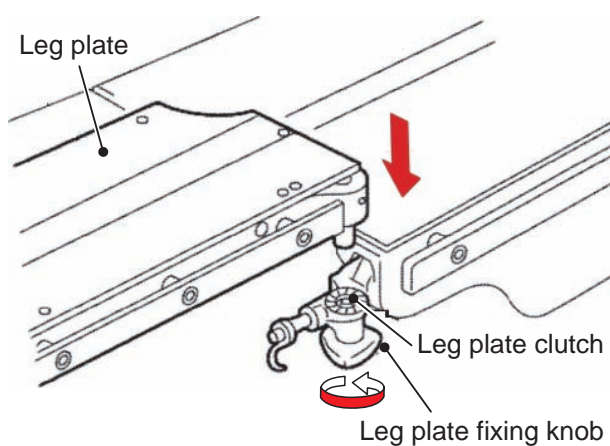
## ■ Detaching the leg plates

1. Hold the ends of the leg plate at the leg side
2. Turn the leg plate fixing knob.
3. Hold and pull up the both ends of the leg plate.



## ■ Attaching the leg plates

1. Hold the both ends of the leg plate and insert the leg plate shaft into the leg plate clutch.
2. While holding the ends of the leg plate at the leg side, turn the leg plate fixing knob until the leg plate clutch engages with the leg plate shaft.



Make sure to lock the leg plate fixing knob. If the leg plates move, the patient may get injured.

## 4.12 Turning the tabletop

The table top can be turned.

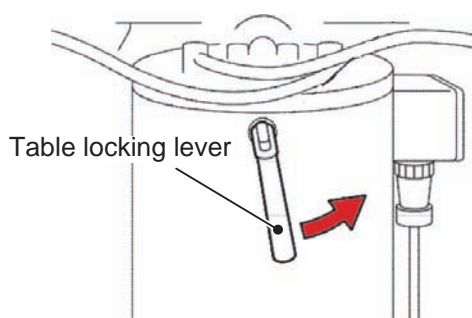
### ■ Turning the table



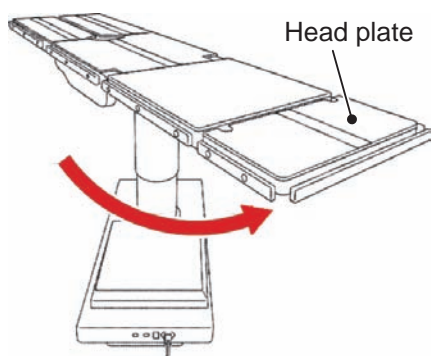
#### WARNING

- Make sure to lock the table locking lever. If the table top moves, the patient may get injured.
- Do not turn the table top with a patient put on. The patient may fall from the operating table.
- Do not use the operation table at a turned position other than 180 degree.

#### 1. Loosen the table locking lever toward the arrow direction.



#### 2. Hold the head plate, and turn the table top counterclockwise.



#### 3. After turning the table, lock the table locking lever to lock.





# 5. Maintenance and inspection

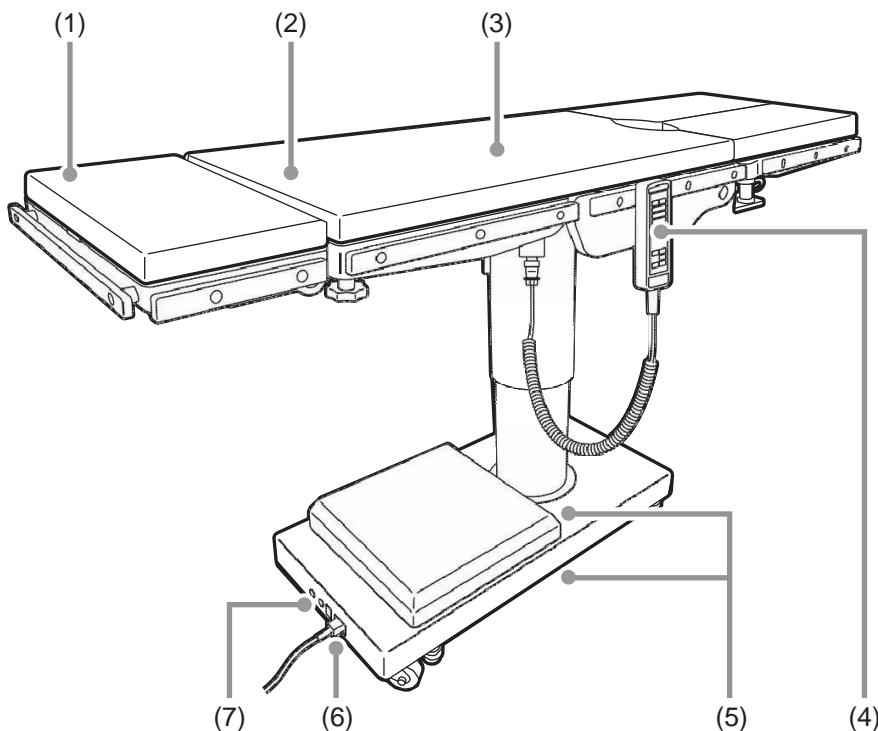
## 5.1 Inspection before and after use



### 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) Mattresses

#### ● Before use

- Check all the mattresses for any damage.

#### ● After use

- Check all the mattresses for any damage or dirt.

### (2) Backlash of the tabletop

#### ● Before use

- Check all the table plates for any backlash when jiggling both ends of the back plate.

### (3) Table plates

#### ● Before use

- Check all the table plates for any damage.

#### ● After use

- Check all the table plates for any damage or dirt.

### (4) Control unit

#### ● Before use

- Press the switches on the control unit to see if all functions are working properly.

### (5) Oil leakage

#### ● Before and after use

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

### (6) Power cord and plug

#### ● Before use

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

### (7) Power switch

#### ● Before use

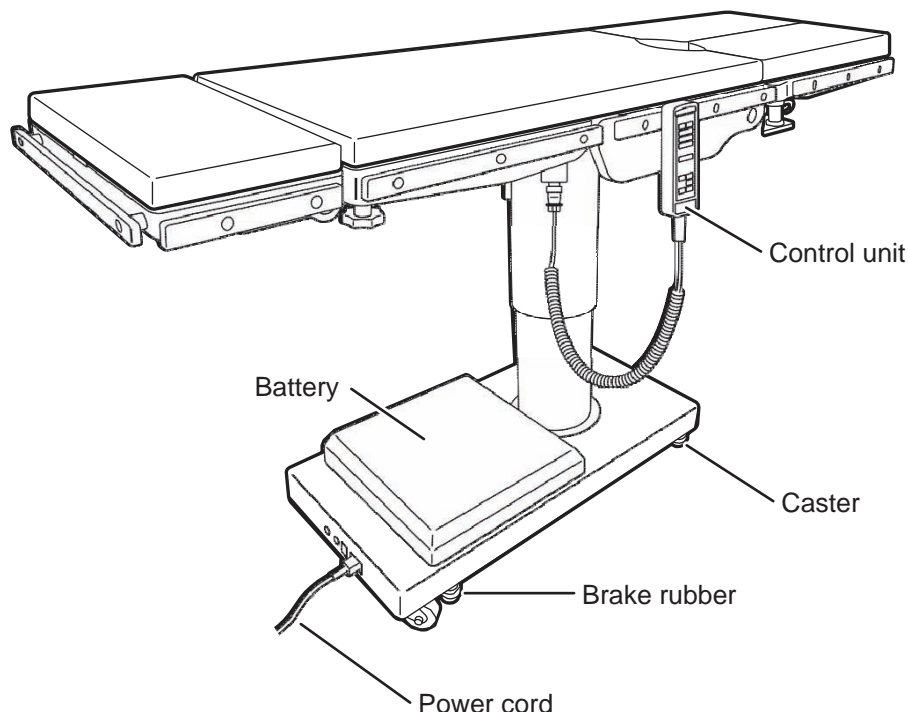
- Turn on the power switch to see if the power lamp lights up.
- Check if the battery has been charged.

## 5.2 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 to 3
Control unit	4 to 6
Caster	5 to 7
Brake rubber	3 to 5
Power cord	5 to 7

### NOTE

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

# 6. Specification

## 6.1 Specification table

Product name			Operating Table MOT-1602BW
Electromotive functions	Elevation range	Highest	1020mm
		Lowest	670mm
	Trendelenburg angle	Head down	28°
		Head up	28°
	Lateral tilt angle	Right down	23°
		Left up	23°
	Back plate flexing angle	Up	90°
		Down	30°
	Flexing		Center up / Center down
	Returning to level		Trendelenburg/Lateral tilt/Back plate bending/Flexing
	Others		Table lock / unlock
Control device	Control unit	Power indicator, Battery indicator, Elevation, Trendelenburg, Lateral tilt, Back plate bending, Flexing, Returning to level, Brake, E switch, Power On/Off	
Manual functions	Head plate flexing angle	Up	60°
		Down	90°
	Leg plate flexing angle	Down	90°
	Leg plate outstretching angle	Each for left and right	90°
	Table top rotation angle		Counterclockwise: 180°
	Detachment		Head plate / Leg plate (left/right)
	Others		Emergency brake release handle
Rating	Classification as per IEC 60601-1		Class1device / B type Device / IPX4 (internal power source device : Note 1)
	Rated voltage		AC 110 - 120 V
	Frequency		50 - 60 Hz
	Battery power		DC 24 V
	Power input		450 VA
	Operating voltage		DC 5 V, 24 V
	Duty cycle		3 min on, 7 min off : Note 2
	Others		Conformity to EMC Standard IEC 60601-1-2
Dimension	Tabletop		2000 mm (L) x 500 mm (W) : Note 3
	Base		999 mm (L) x 480 mm (W)
Weight			255 kg
Operating environment	Temperature		10 to 40°C: Note 4
	Humidity		30 to 75%: Note 4
	Atmospheric pressure		700 to 1060 hPa: Note 4

Transportation and storage	Temperature	-30 to 70°C: Note 5
	Humidity	20 to 80% (without moisture condensation) : Note 5
	Atmospheric pressure	500 to 1060 hPa: Note 5
Service life		Under the specified maintenance and proper storage, 10 years: Note 6

Note 1: When the battery power is used

Note 2: Consecutive pressing of the switch of the control unit.

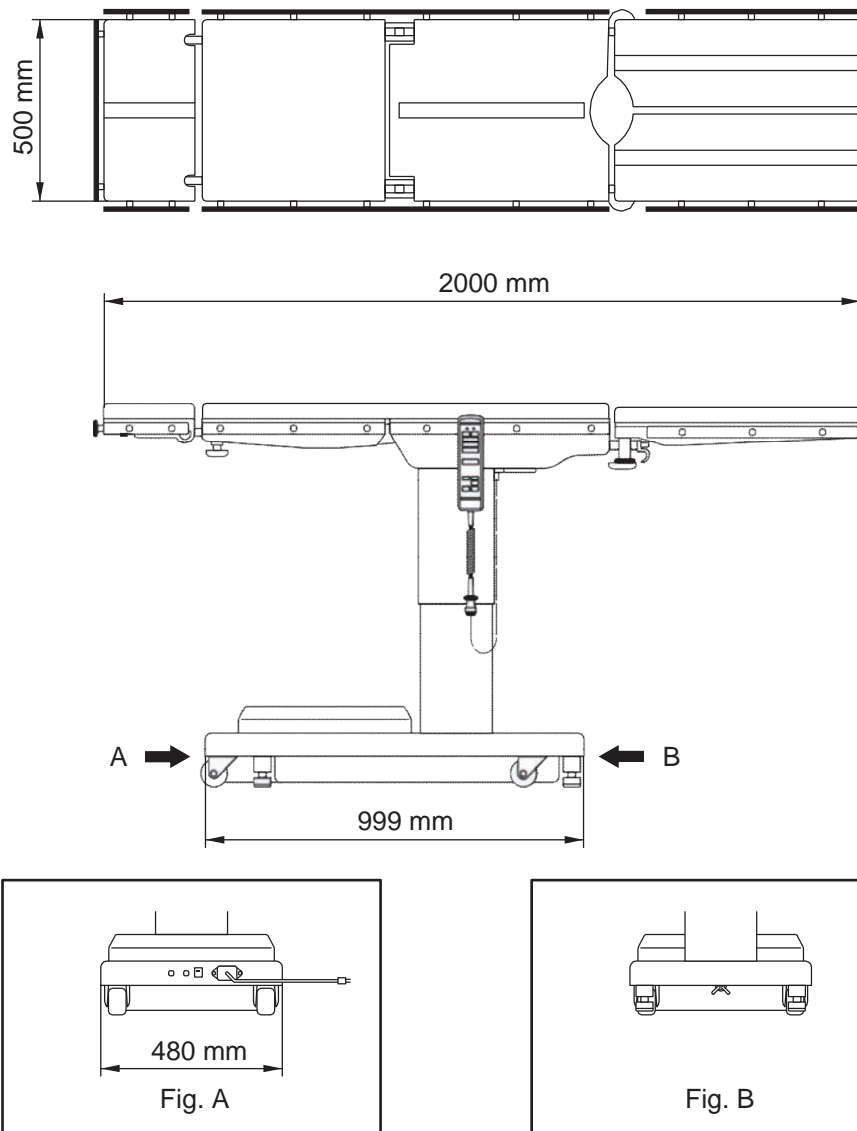
Note 3: Excluding the side rail

Note 4: IEC 60601-1, Medical electrical equipment - Part1: General requirements for safety

Note 5: Company standard (in case that appropriate maintenance and inspection is done)

Note 6: Based on Mizuho's own validation data

## 6.2 External view



# 7. Troubleshooting

## ■ When the control unit cannot be used

- Use the emergency brake release handle to release the brake



Do not tilt the tabletop while the emergency brake release handle is in the "UNLOCK" position.  
The patient may fall from the operating table.

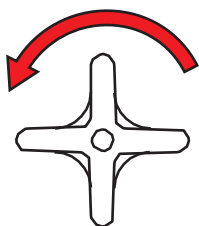
In case of electrical trouble, the operating table can be moved by using the emergency brake release handle.

Follow the procedure below to release the brake.

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

The brake is released.

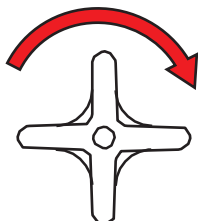
Turn the handle



To move the operating table after you released the brake, activate the brake again with the following procedure. If the operating table is moved with the brake released, the patient may fall from the operating table.

#### 1. Return the emergency brake release handle clockwise (to the right).

Turn the handle



#### 2. Hold and press on the control unit.

The operating table is 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 control unit connector is not connected properly.	Insert the connector completely. (→ Page 15)
	The battery is fully discharged.	Charge the battery. (→ Page 16)
A switch on the control unit does not function.	The control unit connector is not connected properly.	Insert the connector completely. (→ Page 15)
	E switch is not pressed simultaneously with the function switch.	Hold down E switch and press the switch. (→ Page 19 to 25)
The brake switch on the control unit does not function.	The emergency brake release handle is in the release (UNLOCK) position.	Turn the emergency brake release handle toward "LOCK". (→ Page 36)

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

## ■ In case of malfunction

Implement the follow measures when the operating table is broken.

- 1. Turn the power switch off 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.**



- 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.
- 

## ■ 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.

## ■ 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 damage on purpose. All other warranty terms and conditions are subject to regulations of MIZUHO Corporation.



# App. Electromagnetic Compatibility

Medical Electrical Equipment needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in this manual.

Portable and mobile RF communications equipment can affect Medical Electrical Equipment.

The use of Accessories, transducers, and cables other than those specified, with the exception of transducers and cables sold by the Manufacturer of this device as replacement parts for internal components, may result in increased Emissions or decreased Immunity of Operating Table MOT-1602BW.

Operating Table MOT-1602BW should not be used adjacent to or stacked with other equipment and that if adjacent or stacked use is necessary, Operating Table MOT-1602BW should be observed to verify normal operation in the configuration in which it will be used.

GUIDANCE AND MANUFACTURER'S DECLARATION – ELECTROMAGNETIC EMISSIONS		
Operating Table MOT-1602BW is intended for use in the electromagnetic environment specified below. The customer or the user of Operating Table MOT-1602BW should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	Operating Table MOT-1602BW 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.
RF emissions CISPR 11	Class A	Operating Table MOT-1602BW 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.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations / flicker emissions IEC 61000-3-3	Complies	

## RECOMMENDED SEPARATION DISTANCES BETWEEN PORTABLE AND MOBILE RF COMMUNICATIONS EQUIPMENT AND OPERATING TABLE MOT-1602BW

Operating Table MOT-1602BW is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of Operating Table MOT-1602BW can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and Operating Table MOT-1602BW as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2,5 GHz
W	$d = 1.2\sqrt{P}$	$d = 1.2\sqrt{P}$	$d = 2.3\sqrt{P}$
0,01	0.12	0.12	0.23
0,1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance **d** in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where **P** is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.


**NOTE 1:** At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

**NOTE 2:** These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

GUIDANCE AND MANUFACTURER'S DECLARATION – ELECTROMAGNETIC IMMUNITY			
Operating Table MOT-1602BW is intended for use in the electromagnetic environment specified below. The customer or the user of Operating Table MOT-1602BW should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD)  IEC 61000-4-2	±6 kV contact  ±8 kV air	±6 kV contact  ±8 kV air	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/output lines	±2 kV for power supply lines  ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge  IEC 61000-4-5	±1 kV line(s) to line(s)  ±2 kV line(s) to earth	±1 kV line(s) to line(s)  ±2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines  IEC 61000-4-11	<5 % $U_T$ (>95 % dip in $U_T$ ) for 0.5 cycle  40 % $U_T$ (60 % dip in $U_T$ ) for 5 cycles  70 % $U_T$ (30 % dip in $U_T$ ) for 25 cycles  <5 % $U_T$ (>95 % dip in $U_T$ ) for 5 sec	<5 % $U_T$ (>95 % dip in $U_T$ ) for 0.5 cycle  40 % $U_T$ (60 % dip in $U_T$ ) for 5 cycles  70 % $U_T$ (30 % dip in $U_T$ ) for 25 cycles  <5 % $U_T$ (>95 % dip in $U_T$ ) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of Operating Table MOT-1602BW requires continued operation during power mains interruptions, it is recommended that Operating Table MOT-1602BW be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field  IEC 61000-4-8	3 A / m	3 A / m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment
<b>NOTE:</b> $U_T$ is the a.c. mains voltage prior to application of the test level.			

## GUIDANCE AND MANUFACTURER'S DECLARATION – ELECTROMAGNETIC IMMUNITY

Operating Table MOT-1602BW is intended for use in the electromagnetic environment specified below. The customer or the user of Operating Table MOT-1602BW should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 V	Portable and mobile RF communications equipment should be used no closer to any part of Operating Table MOT-1602BW including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.  <b>Recommended separation distance</b> $d = 1.2\sqrt{P}$
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	$d = 1.2\sqrt{P}$ 80 MHz to 800 MHz $d = 2.3\sqrt{P}$ 800 MHz to 2.5 GHz  where <b>P</b> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and <b>d</b> is the recommended separation distance in metres (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, <sup>a</sup> should be less than the compliance level in each frequency range. <sup>b</sup> Interference may occur in the vicinity of equipment marked with the following symbol:  

**NOTE 1:** At 80 MHz and 800 MHz, the higher frequency range applies.

**NOTE 2:** These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

<sup>a</sup> Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which Operating Table MOT-1602BW is used exceeds the applicable RF compliance level above, Operating Table MOT-1602BW should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating Operating Table MOT-1602BW.

<sup>b</sup> Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.





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Sales Agent

Manufacturer:



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