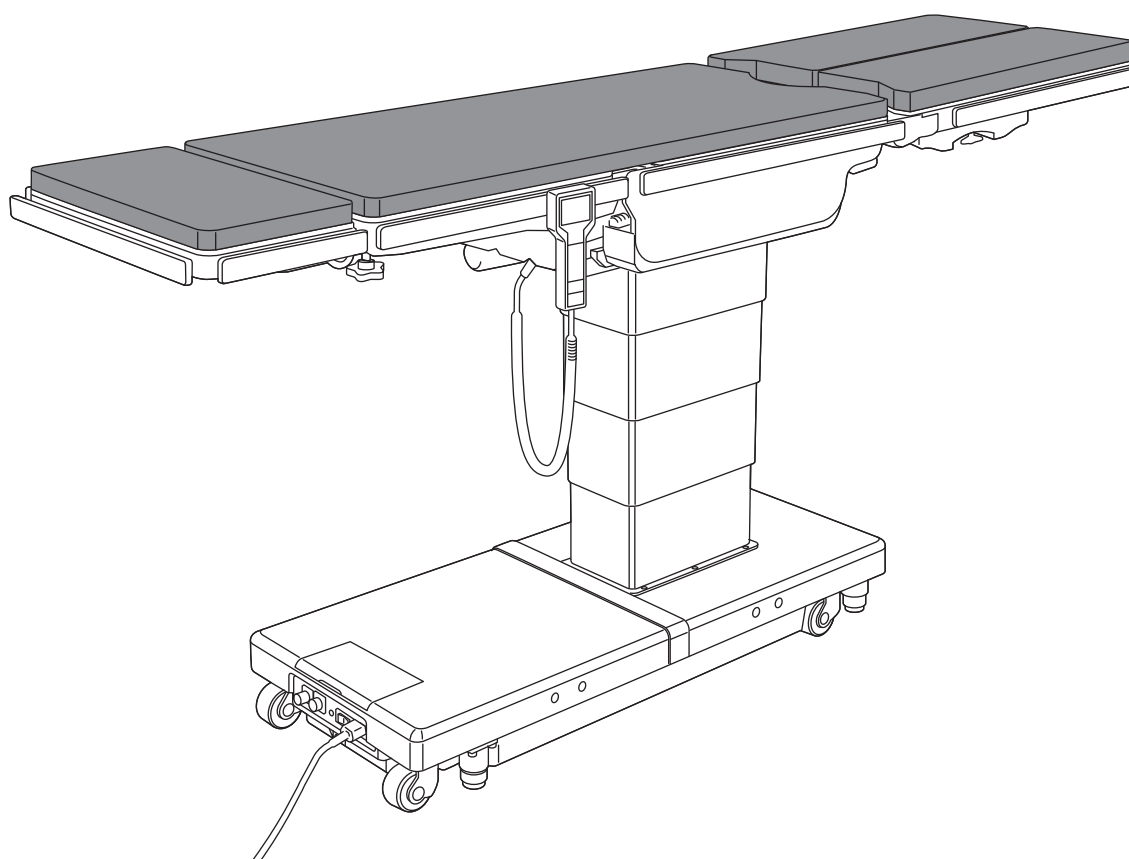


CE



Operating Table MOT-VS700

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

1.	Introduction	1
1.1	This manual	1
1.2	Intended use and this product	1
1.3	Operation of this product	2
1.4	Accessories	2
2.	Safety precaution	4
2.1	Read thoroughly before using	4
2.2	Labeling	9
3.	Section Introduction	13
3.1	Main unit	13
3.2	Hand controller	14
3.3	Touch screen	16
3.4	Foot switch (optional)	21
4.	Installation	22
4.1	Installation of the operating table.....	22
4.2	Attaching/Detaching the hand controller.....	23
4.3	Turning on/off the power	26
4.4	Charging the battery	30
5.	Settings	31
5.1	Setting the pause functions at the level and center positions.....	31
5.2	Infrared mode	32
5.3	Bluetooth mode	34
5.4	Reverse mode	39

6.	Operation	41
6.1	Operating the emergency stop switch	41
6.2	Fixing and unfixing the operating table	42
6.3	Trendelenburg	43
6.4	Tilting the tabletop laterally	44
6.5	Back section up/down.....	45
6.6	Changing the tabletop height.....	46
6.7	Sliding the tabletop	47
6.8	Leg section up/down.....	48
6.9	Flexing or reflexing the tabletop	49
6.10	Change height of the kidney bridge (MOT-VS700UKI only).....	50
6.11	Beach chair.....	51
6.12	Return to level	52
6.13	Operating/Registering memory.....	53
6.14	Adjusting the head section	57
6.15	Attaching/detaching the back section	59
6.16	Adjusting the Double Leg Section (optional)	62
6.17	Attaching/Detaching the Single Leg Section (optional)	65
7.	Maintenance and inspection	67
7.1	Inspection before and after use	67
7.2	Cleaning and disinfection	69
7.3	Maintenance by providers	69
7.4	Periodic replacement parts.....	70
7.5	Version information of the software	70
7.6	LAN connetor.....	71
8.	Specification	72
8.1	Specification table	72
8.2	External view	74
9.	Troubleshooting	75
9.1	When the hand controller cannot be used.....	75
9.2	When the brake cannot be released.....	77
9.3	In case where any error/warning appeared	78
10.	Before contacting for repairs	80
App.-1	Electromagnetic Compatibility	82
App.-2	Glossary.....	85

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.



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



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

■ Operating table

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.

■ Touch screen

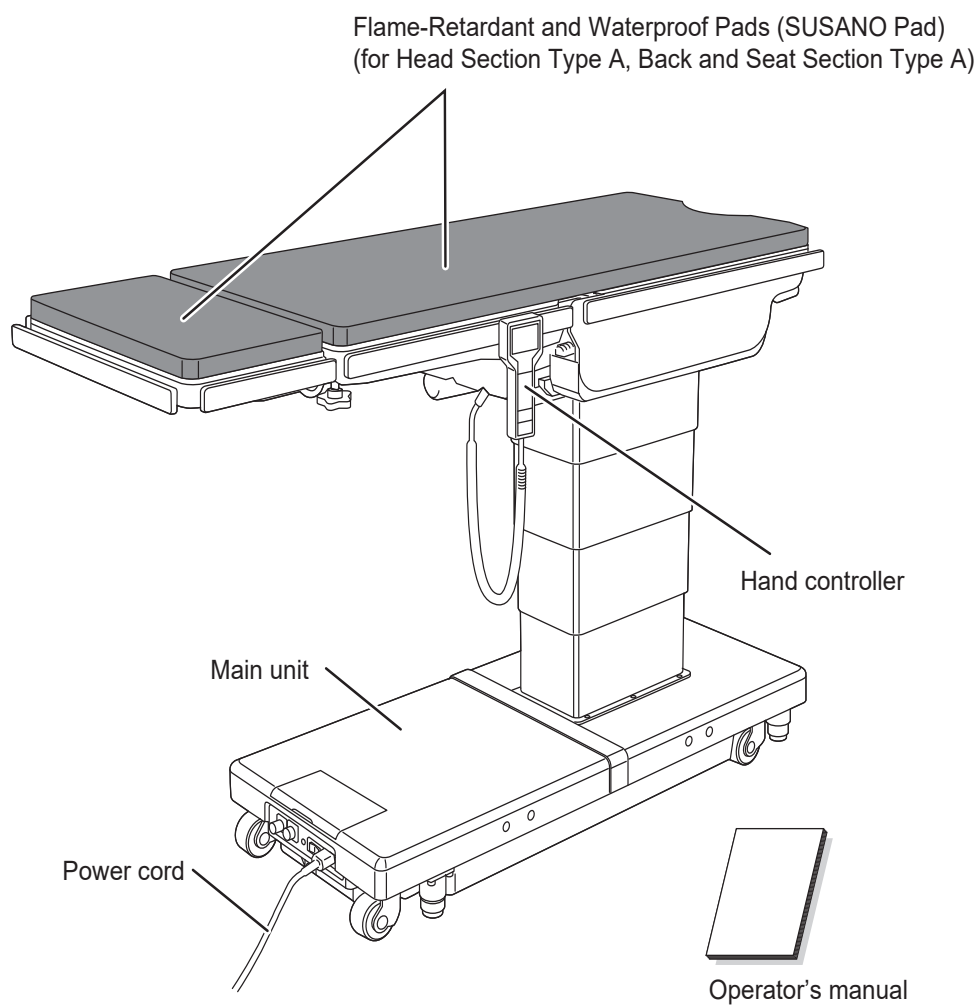
This product is provided with a touch screen. The touch screen displays a status of the operating table and its error status. For the details of the touch screen, refer to Page 16.

1.3 Operation of this product

The description of the operations written in this manual focuses mainly on those to be done by the hand controller. For some operations operable only by the touch screen, however, those by the touch screen are described.

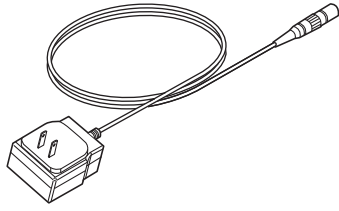
1.4 Accessories

■ Standard components and accessories

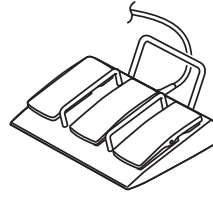


■ **Optional parts**

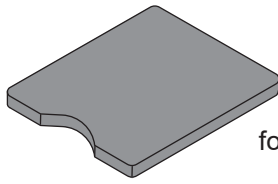
● **Hand controller charging adapter**



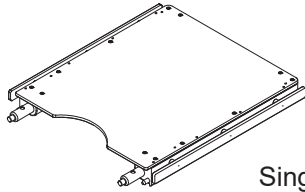
● **Foot switch**



● **Single Leg Section/
Flame-Retardant and Waterproof
Pads (SUSANO Pad)**

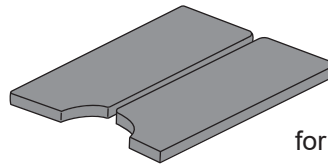


for Single Leg Section
Type A

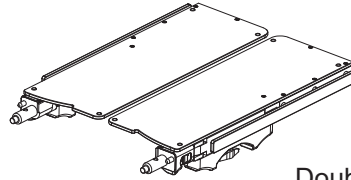


Single Leg Section

● **Double Leg Section/
Flame-Retardant and Waterproof
Pads (SUSANO Pad)**

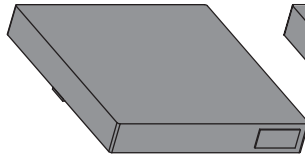


for Double Leg Section
Type A

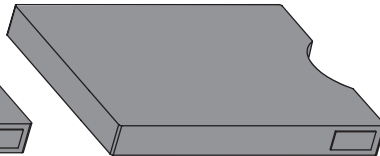


Double Leg Section

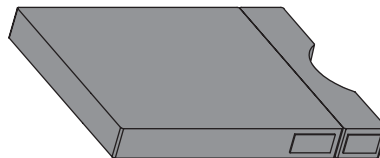
● **Flame-Retardant and Waterproof Pads (SUSANO Pad)**



for Back Section
Type A



for Seat Section
Type A

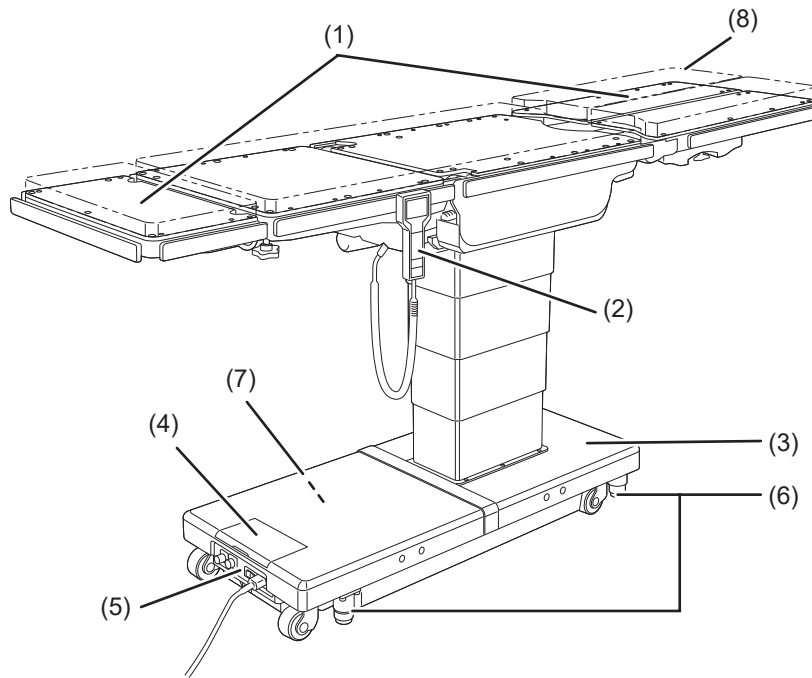


for Seat Section
Type B

2. Safety precaution

2.1 Read thoroughly before using

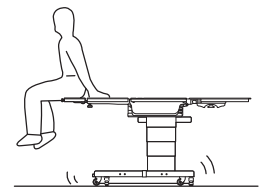
In using this product, carefully read the following warnings and cautions, and make sure to observe them. Any serious incident that has occurred in relation to the device should be reported to the manufacturer and the competent authority in which the user and/or patient is established.



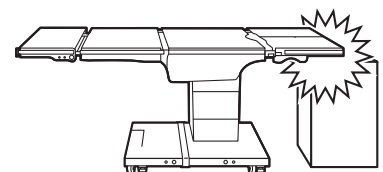
(1) Head section and leg section



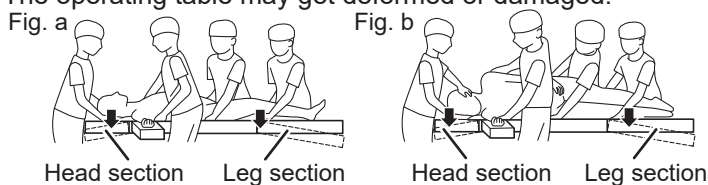
Do not step or sit on the head section or the leg section(s). The operating table may tip over resulting in injury.



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




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



(2) Hand controller



CAUTION

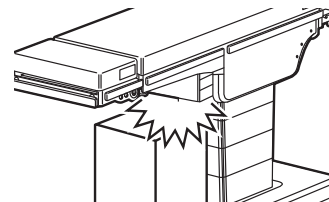
- Do not forcibly pull the hand controller cord.
- Do not subject the hand controller to strong shocks. The hand controller may get damaged.
- While the reverse mode or the memory mode is set, press  as necessary to put it back to the normal mode.

(3) Base



CAUTION

Do not place any objects on the base. An object may get caught and the operating table may get damaged.



(4) Touch screen



CAUTION

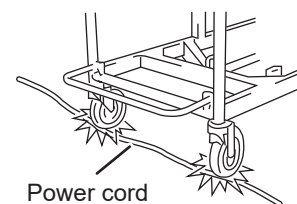
- Do not push the touch screen by any sharps such as a pen and a screw driver. The touch screen may get damaged.
- Do not apply great impact or pressure to the touch screen. The touch screen may get damaged.
- Do not use organic solvents such as paint thinner to wipe the display and the protective cover. They may get damaged. To wipe the display and the protective cover, use a natural detergent diluted with water.
- The touch screen does not accept simultaneous multiple-key pressing and flicking operations. When operating the touch screen, press the switch one by one.
- Close the protective cover when you do not use the touch screen.

(5) Power cord, power connector, foot switch connector and LAN connector



WARNING

- 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 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.



CAUTION

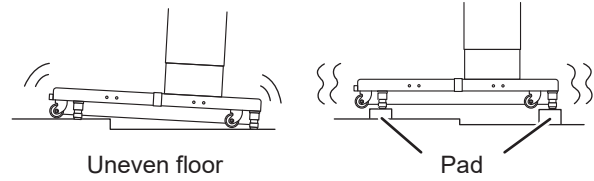
Do not remove the lids of the foot switch connector and the LAN connector except for when you are using the foot switch connector and the LAN connector. Liquids or dusts may get into the connectors, which may result in a bad connection.

(6) 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.



(7) Battery



CAUTION

- Make sure to charge the battery once every month. The battery will discharge naturally even while it is not being used. Excess consumption may make the battery unusable.
- Even if the power cord is left plugged in, the battery will discharge naturally after a long period of time. When operating with the power cord plugged in, periodically perform one of the following operations in order to recharge it.
 - Unplug and plug in the power cord.
 - Turn the power switch off and then turn it on again.

(8) Table pad



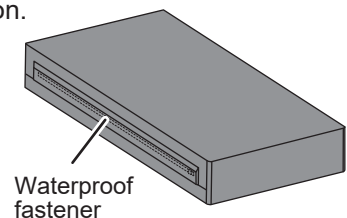
WARNING

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.
- The table pads maintain waterproofness when they are properly attached in their usage. If the table pads are attached other than the proper placement method in their usage, and liquids infiltrate inside, it may cause degradation.
- If liquids get on the table pads waterproof fastener, wipe them off quickly. If the waterproof fastener gets wet and the liquids infiltrate inside, it may cause degradation.
- Do not open the table pads waterproof fastener. If liquids infiltrate inside, it may cause degradation.



■ Patient's position during surgical operation



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.

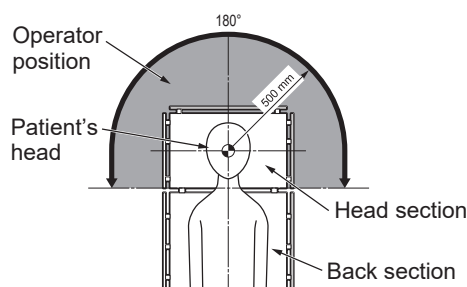
● Positioning the patient

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



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



● 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.

● 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: 450 kg (1000 lbs) / Operations other than elevation: 360 kg (800 lbs) /
Reverse mode: 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.
-



● 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.
 - * Do not move the operating table by pulling on the head section or the leg section.
- 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.

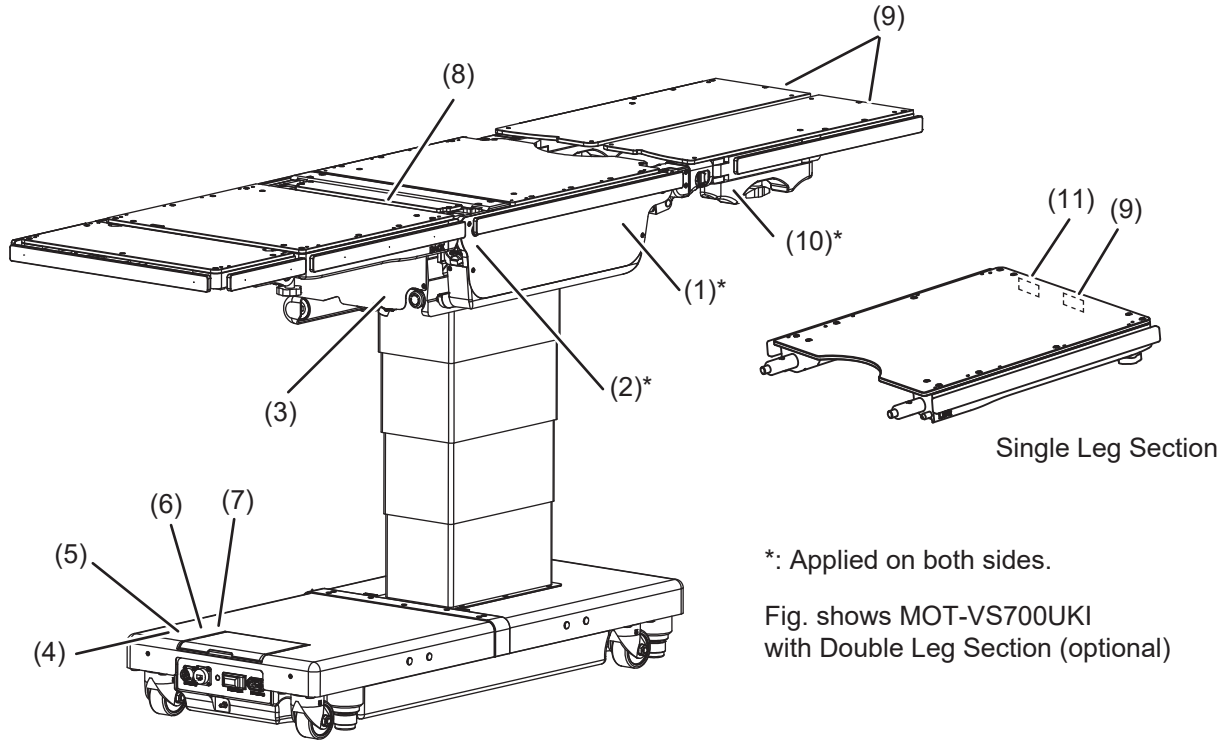
● Disposal

- 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) Lithium-ion 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.

Fig. shows MOT-VS700UKI with Double Leg Section (optional)

(1) C655732 □

⚠ WARNING	⚠ MISE EN GARDE
KEEP YOUR FINGERS AND HANDS AWAY FROM A MOVING PART OF THE UNIT DURING THE OPERATION ON THE TABLE. OTHERWISE THEY MAY GET HURT.	MAINTENEZ VOS DOIGTS ET VOS MAINS ÉLOIGNÉS DE TOUTE PARTIE MOBILE DE L'UNITÉ DURANT LE FONCTIONNEMENT DE LA TABLE. DANS LE CAS CONTRAIRE, VOUS RISQUEZ D'ÊTRE HEURTÉ.

(2) 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.

(3) C653614 □



(4) 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.

(5) C657332 □

⚠ CAUTION	⚠ ATTENTION
KEEP THE PROTECTIVE COVER CLOSED ALWAYS, EXCEPT WHEN OPERATING THE TOUCH PANEL.	MAINTENEZ TOUJOURS LE CACHE PROTECTEUR FERMÉ, EXCEPTÉ LORS DE L'UTILISATION DE L'ÉCRAN TACTILE.
AVOID TOUCHING A SHARP OBJECT OR EXERTING UNIDUE STRESS ON THE SURFACE OF TOUCH PANEL.	ÉVITEZ DE TOUCHER LA SURFACE DE L'ÉCRAN TACTILE AVEC UN OBJET POINTU OU D'EXERCER UNE PRESSION EXCESSIVE SUR CETTE SURFACE.

(6) C655803 □

⚠ CAUTION
<ul style="list-style-type: none"> 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.

(8) C656310 □ (MOT-VS700UKI only)

⚠ WARNING	⚠ MISE EN GARDE
POSSIBLE TABLE DAMAGE	DOMMAGE POSSIBLE À LA TABLE
RETRACT KIDNEY LIFT COMPLETELY BEFORE RAISING BACK SECTION	RETIRER COMPLÈTEMENT LE DISPOSITIF DE LEVAGE AVANT DE LEVER LA PARTIE ARRIÈRE

(7) C657333 □

⚠ ATTENTION
<ul style="list-style-type: none"> LE COMMUTATEUR DE SECOURS EST PRÉVU POUR ÊTRE UTILISÉ LORSQUE LE BOUTIER DE COMMANDE EST DÉFECTUEUX. UTILISEZ TOUJOURS LE BOUTIER DE COMMANDE DES LORS QU'IL EST EN ÉTAT NORMAL. LE COMMUTATEUR DE SECOURS N'AVANT 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 CONTINUËLLEMENT SURVEILLER LE MOUVEMENT DU PLATEAU. SI LE PLATEAU VIENT À TOUCHER QUELQUE CHOSE OU EST ENDOMMAGÉ D'UNE QUELCONQUE MANIÈRE DURANT L'OPÉRATION, CÉSSEZ IMMÉDIATEMENT D'UTILISER LA TABLE.

(9) C643029 □

⚠ WARNING	⚠ MISE EN GARDE
DO NOT SIT OR STEP ON THE LEG PLATE. THE TABLE MAY FALL OR THE PLATE MAY COME DOWN AND CAUSE INJURY.	NE PAS S'ASSEoir OU MONTER SUR LES PLAQUES JAMBIÈRES. SINON LA TABLE PEUT BASCULER OU LES PLAQUES JAMBIÈRES PEUVENT SE DÉTACHER CE QUI PEUT PROVOQUER DES BLESSURES.

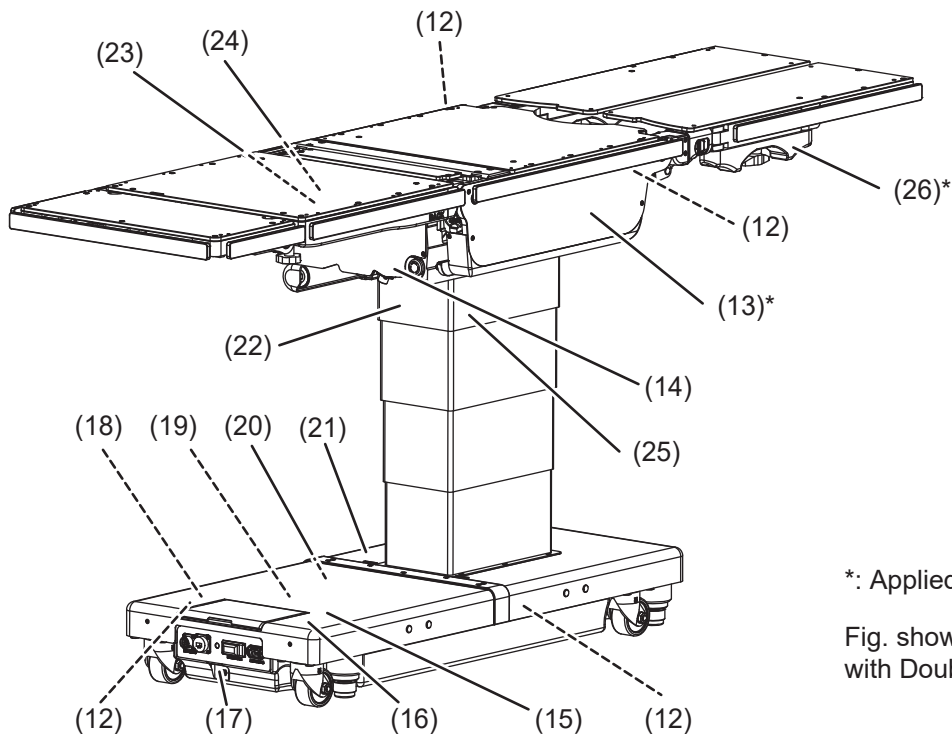
(10) C643019 □ (Double Leg Section only)

⚠ WARNING	⚠ MISE EN GARDE
LEG PLATE WEIGHT 8.5 kg. PAY SPECIAL ATTENTION WHEN BANDINGIT.	POIDS D'UN REPOSE JAMBE 8.5 kg. ACCORDEZ UNE ATTENTION PARTICULIÈRE LORS DU SANGLAGE.

(11) C656312 □ (Single Leg Section only)

⚠ WARNING	⚠ MISE EN GARDE
USE HEAD SECTION AS FOOT EXTENSION ONLY - WHEN REVERSING PATIENT ON TABLE REFER TO OPERATOR MANUAL.	UTILISER LA PARTIE AVANT MOUVEMENT COMME RALLONGE DE PIED - CONSULTER LE MANUEL D'UTILISATION AU MOMENT DE RETOURNER LE PATIENT SUR LA TABLE.

Other labels (1/2)



*: Applied on both sides.

Fig. shows MOT-VS700UKI with Double Leg Section(optional)

- (12) C655001□
- (13) C640018□(MOT-VS700UI)
- C640021□(MOT-VS700UKI)
- (14) C657310□



or C640019□

or C640022□



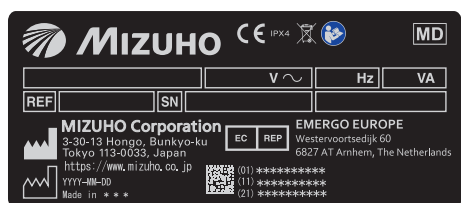
- (15) C657313□

or C640020□

or C640023□



- (16) C642002□



- (17) C653513□



- (18) C655002□



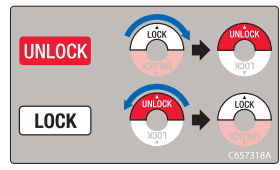
- (19) C644004□



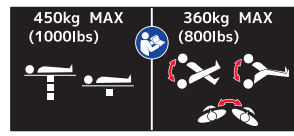
- (20) C655711□



- (21) C657318□



- (22) C653612□



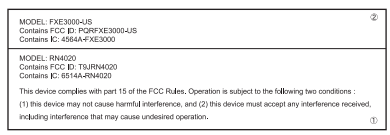
- (23) C600020□



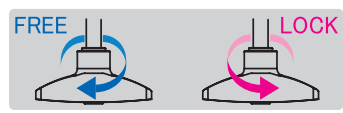
- (24) C655717□



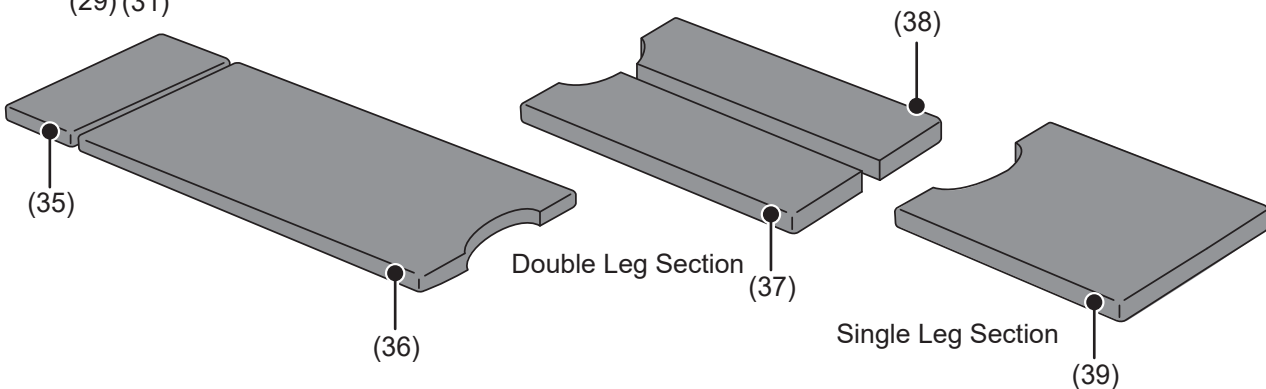
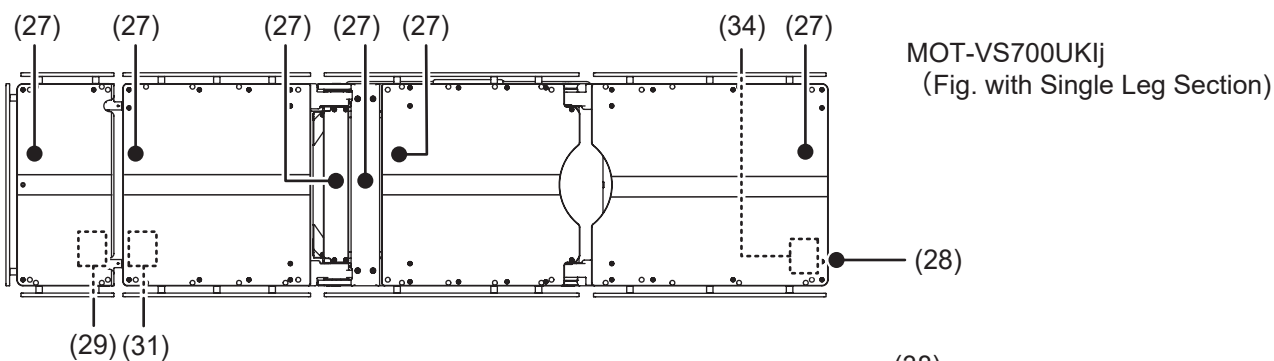
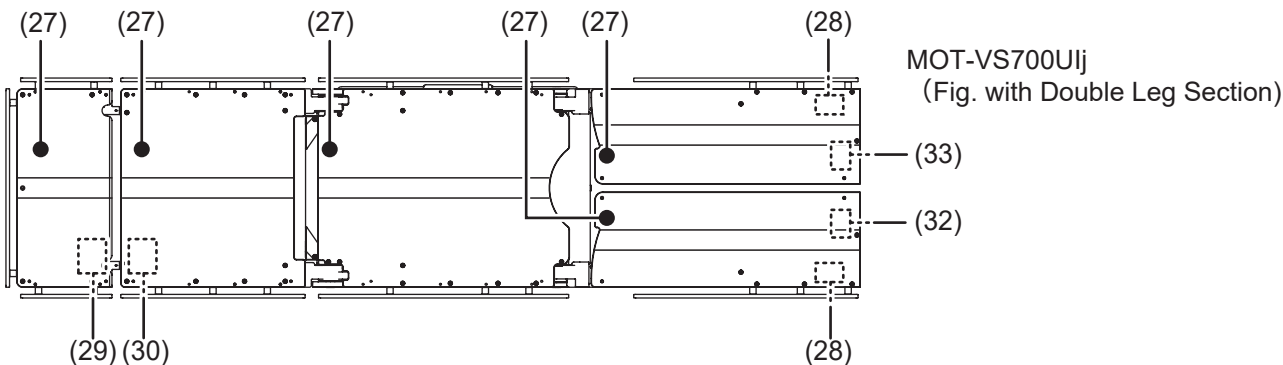
- (25) C648008□



- (26) C644012□



Other labels (2/2)



(27) C653620□ (28) C680038□



MOT-VS700UI MOT-VS700UKI

(29) C646060□ (30) C646061□ (31) C646084□ (32) C646063□ (33) C646062□ (34) C646095□



or C646074□

or C646076□

or C646077□

or C646082□

or C646080□

or C646096□



or C646075□

or C646079□

or C646078□

or C646083□

or C646081□

or C646097□



(35) PIN 558K5M1

(36) PIN 558K6M1




















(37) PIN 558K8M2

(38) PIN 558K8M1

(39) PIN 558K8M5



■ 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) (4) (5) (6) (7) (8) (9) (10) (11)
	General prohibition sign	(4) (5) (9)
	No sitting	(9)
	No stepping on surface	(9)
	General mandatory action sign	(4) (5)
	Emergency stop	(3)
	Refer to the operator's manual	(3) (4) (15) (16) (19) (22)
	Indicates AC power supply	(16)
IPX4	Enclosure Class (Splash-proof)	(16)
	Serial number	(16) (28)
	Catalogue Number	(16) (28)
	Indicates waste disposal information	(16)
	European authorized representative	(16)
	Medical Device	(16)
	Equalization terminal	(17)
	Indicates protection against electric shock and defibrillator (Class B)	(27)
	Defibrillation - proof Type B applied part	(35) (36) (37) (38) (39)
	Date of manufacture	(16)
	Manufacturer	(16) (35) (36) (37) (38) (39)
	Conforms to BS 7177:2008 for medium hazard	(35) (36) (37) (38) (39)

3. Section Introduction

3.1 Main unit

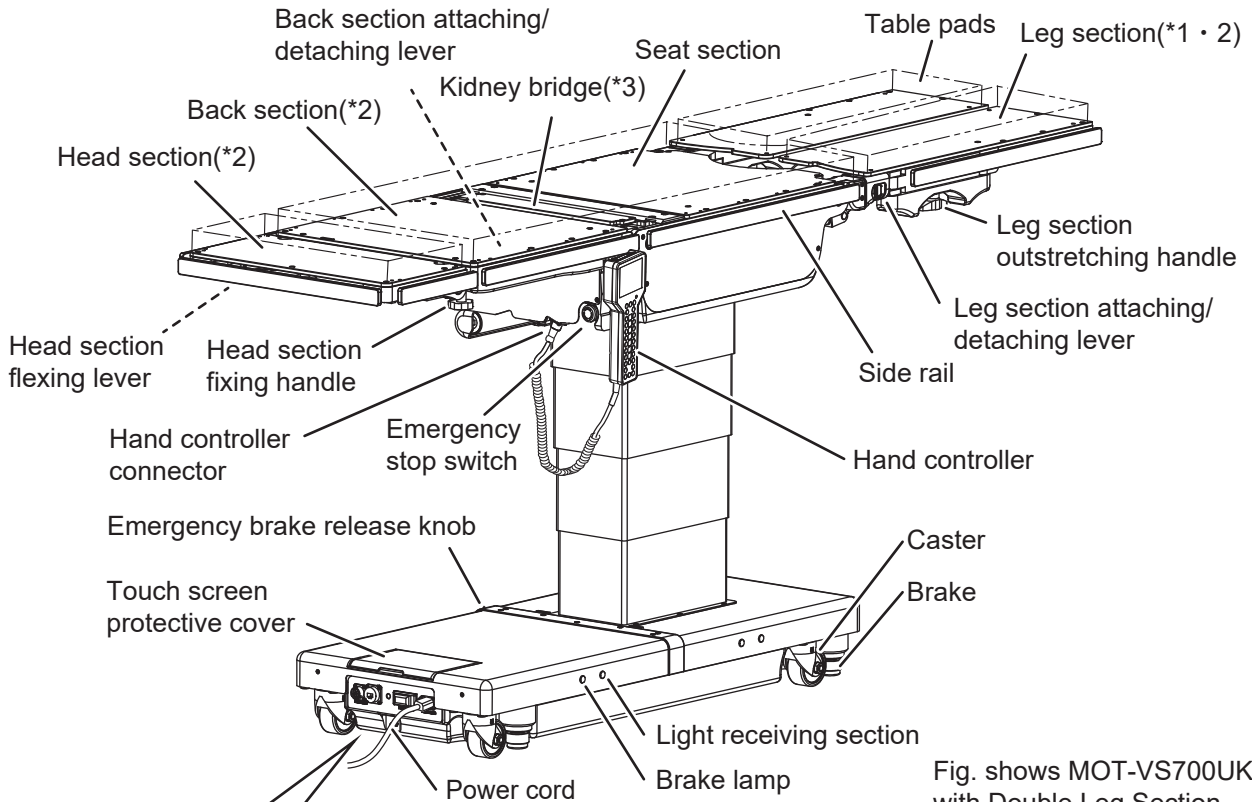
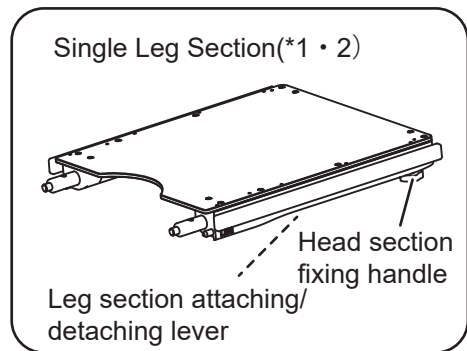
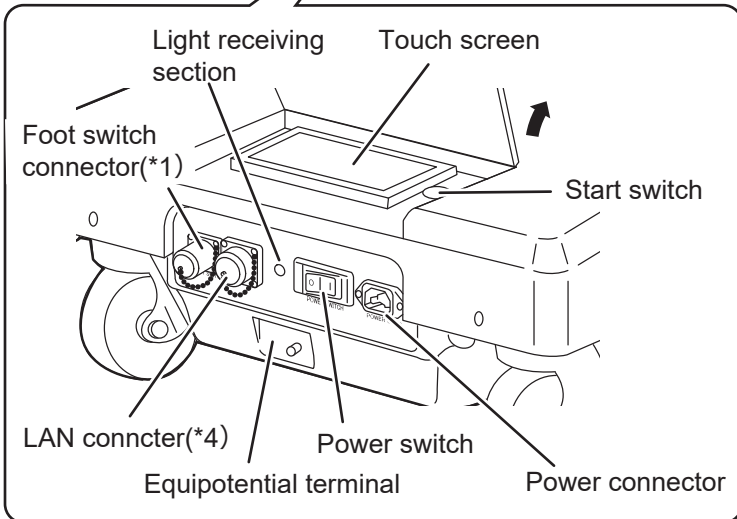
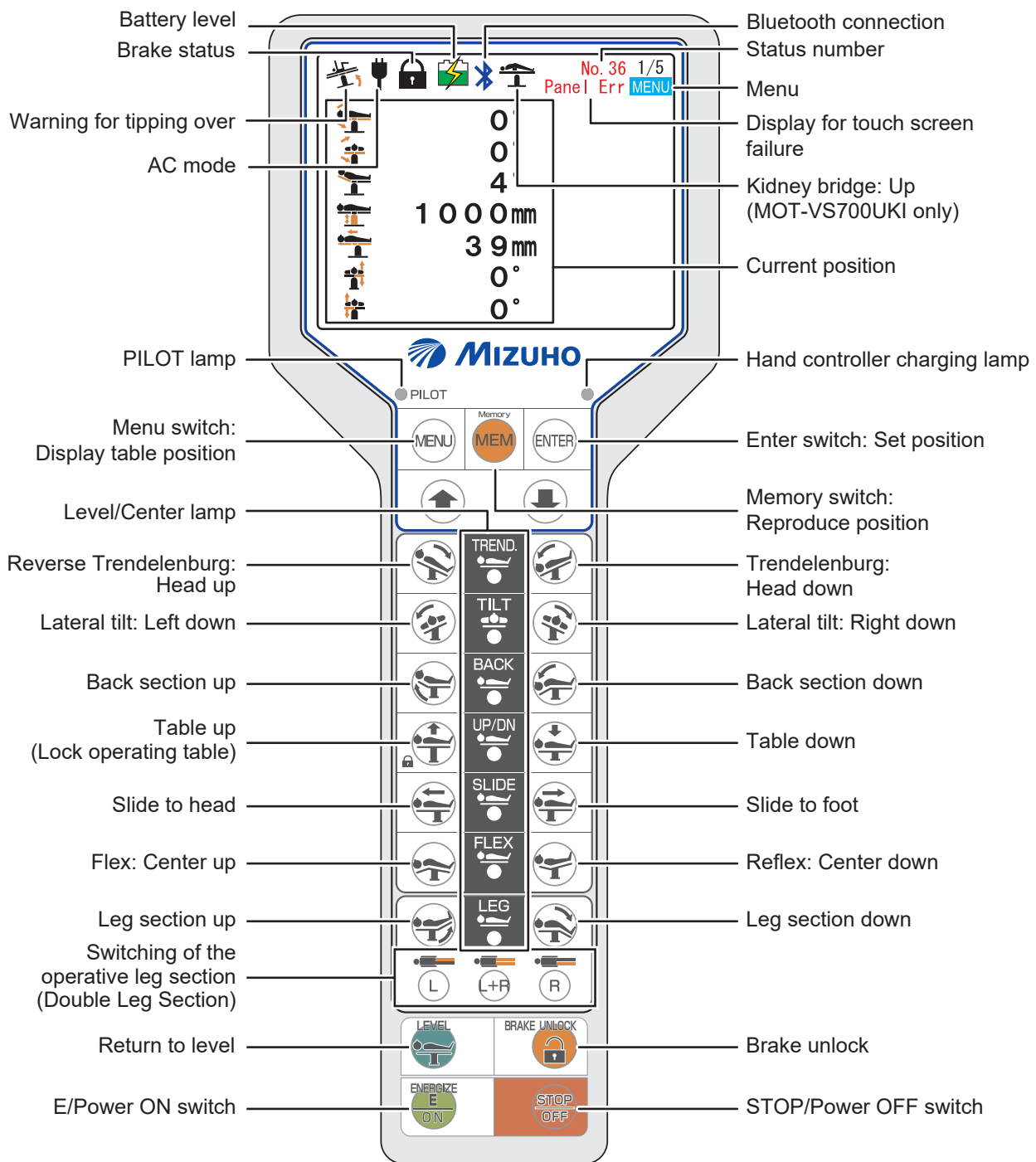


Fig. shows MOT-VS700UKI with Double Leg Section






- * 1: The Double Leg Section, the Single Leg Section and the foot switch are optional.
- * 2: The head section, the back section, the Double Leg Section and the Single Leg Section can be detached.
- * 3: Only the MOT-VS700UKI.
- * 4: LAN connector is intended to be used for maintenance. Do not connect a device such as a personal computer to the LAN connector.

3.2 Hand controller



NOTE

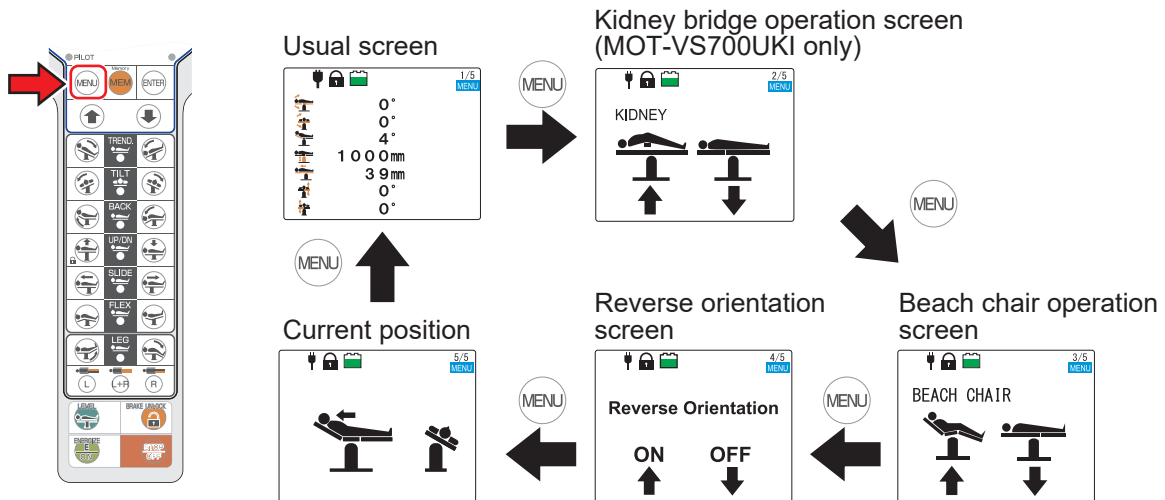
- The switches other than the E switch continue to function while being pressed.
- If  is pressed, function switches light up. Pressing any function switch while they are lighting up activates the function of the switch, and the PILOT lamp lights up. The function does not work even if you pressed the function switch before pressing .
- The hand controller charging lamp blinks when charging is required and lights up while charging.
- The level/center lamp lights up when the tabletop is at the level or center position of respective operations.
- To prevent damages, the operating table may stop automatically during the operation of the table with a message shown on the hand controller. For specific recovery procedures after the operating table stopped, refer to Page 78.
- When the hand controller is used in the infrared mode, nothing appears on the monitor. However, by pressing , display the beach chair and the kidney bridge (MOT-VS700UKI only) operation screen.
- When using the battery, the power is turned off automatically 3 minutes after the last operation.

Menu switch

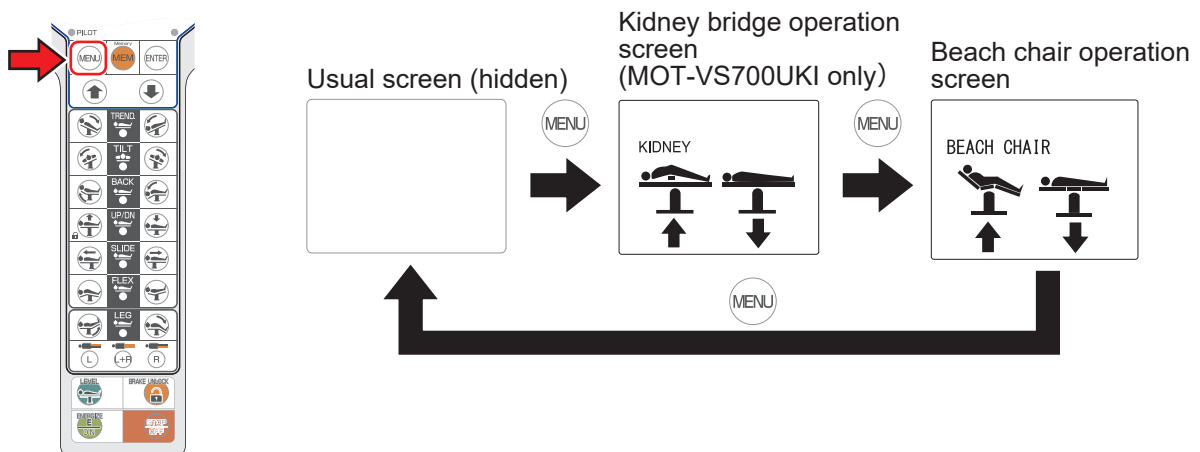
If **MENU** is pressed on the hand controller, the screen display will change as the following.

When you performing the kidney bridge (MOT-VS700UKI only) or the beach chair operation, select the applicable screen with the menu switch.

Using the operating table with a wired connection or wirelessly (Bluetooth mode)



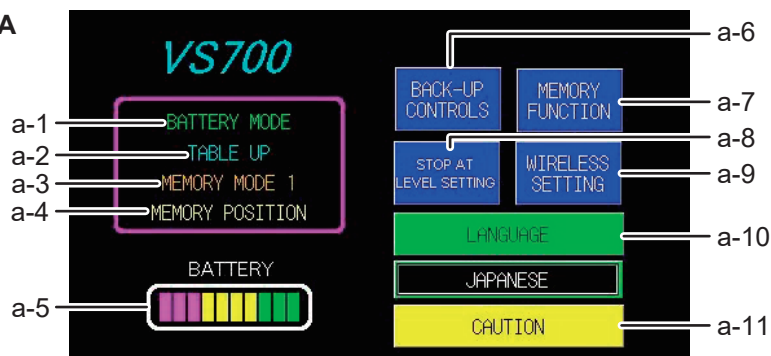
Using the operating table wirelessly (Infrared mode)



3.3 Touch screen


TOP PAGE screen

Fig.A



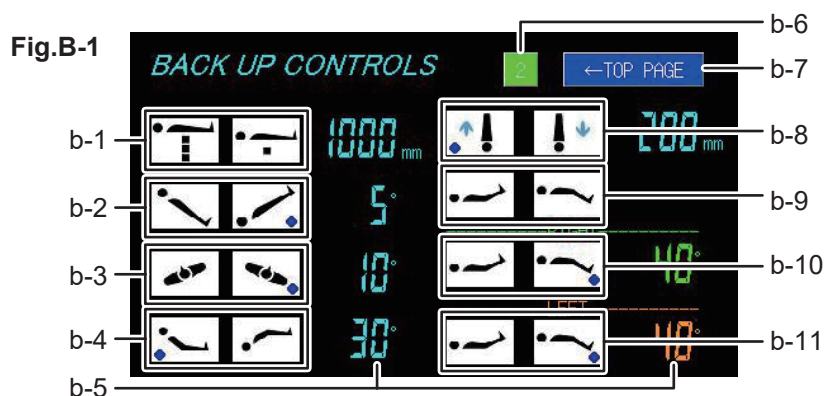
No.	Name	No.	Name
a-1	Power source (AC/BATTERY)	a-6	BACK-UP CONTROLS screen
a-2	Position in operation	a-7	MEMORY FUNCTION screen
a-3	Memory mode being used	a-8	STOP AT LEVEL SETTING screen
a-4	Completion of memory position	a-9	WIRELESS SETTING screen
a-5	Battery indicator	a-10	Language selection
		a-11	CAUTION/WARNING screen

NOTE

- To prevent malfunction, the touch screen is turned off automatically 1 minute after the last operation.
- To redisplay the touch screen, press  or the start switch, or touch the touch screen.

BACK-UP CONTROLS screen

BACK-UP CONTROLS screen (1/2)



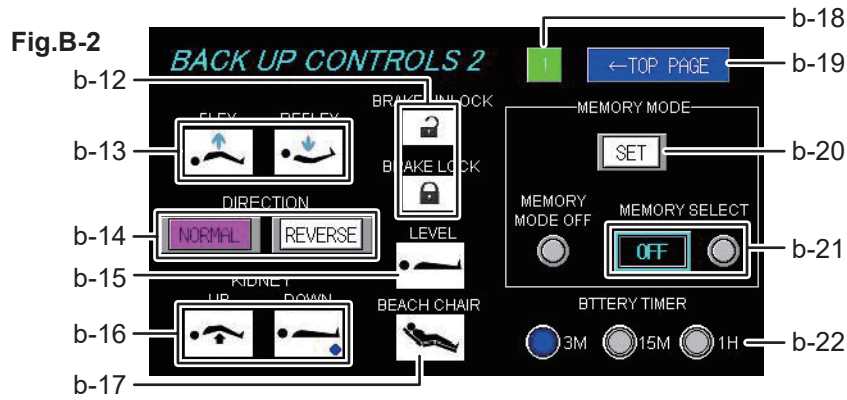
No.	Name	No.	Name
b-1	Elevation (Up/Down)	b-6	Page
b-2	Trendelenburg (Head up/Head down)	b-7	TOP PAGE screen
b-3	Lateral tilt (Left down/Right down) *1	b-8	Slide (Foot/Head)
b-4	Back section (Up/Down)	b-9	Leg section (Up/Down) *2
b-5	Position (Travel/angle)	b-10	Right leg section (Up/Down) *3
	Current positional direction	b-11	Left leg section (Up/Down) *3

*1: In the view from the head

*2: Single Leg Section or simultaneous right and left Double Leg Section

*3: Display only when the Double Leg Section is attached

● BACK-UP CONTROLS screen (2/2)



No.	Name	No.	Name
b-12	Brake (Unlock/Lock)	b-18	Page
b-13	Flex/Reflex	b-19	TOP PAGE screen
b-14	Reverse mode (ON/OFF) *4	b-20	Setup memory
b-15	Return to level	b-21	Memory selection
b-16	Kidney bridge (Up/Down) *5	b-22	Battery saving timer
b-17	Beach chair		

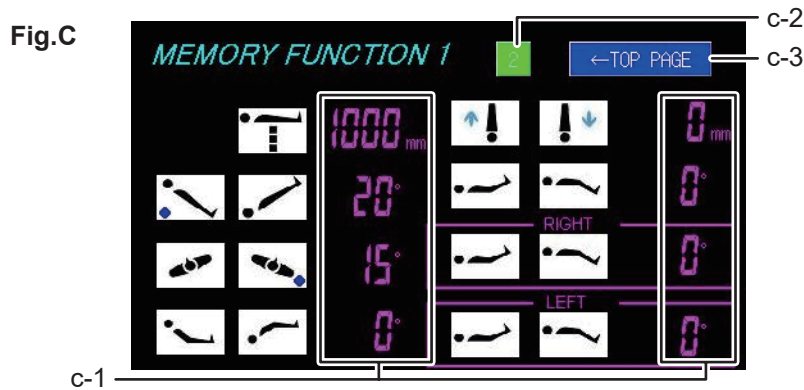
*4: Lights red when selected

*5: MOT-VS700UKI only

NOTE

- For the details of the BACK-UP CONTROLS screen, refer to Page 75.
- The reverse mode can be switched with the touch screen.
- The BACK-UP CONTROLS screen does not support the reverse mode.

■ MEMORY FUNCTION screen



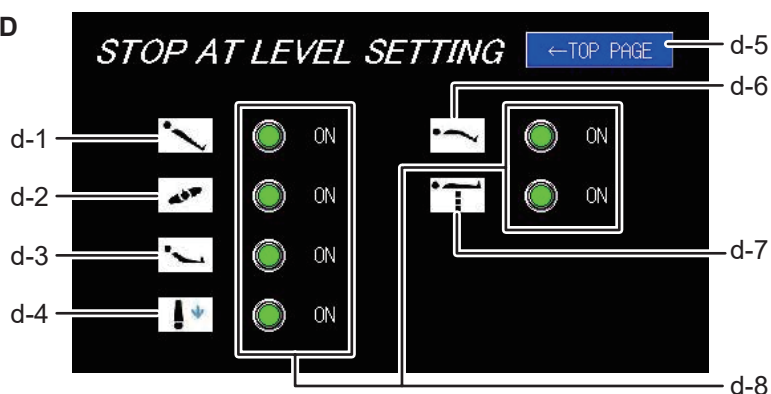
No.	Name	No.	Name
c-1	Settings of the position	c-2	Page
		c-3	TOP PAGE screen

NOTE

For the details of the MEMORY FUNCTION, refer to Page 54.

■ STOP AT LEVEL SETTING screen

Fig.D



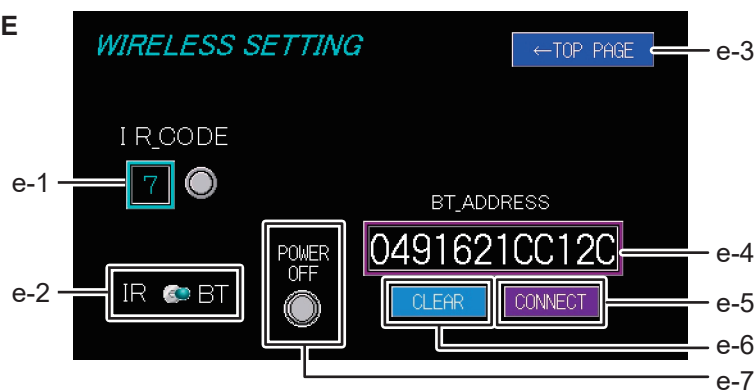
No.	Name	No.	Name
d-1	Trendelenburg	d-5	TOP PAGE screen
d-2	Lateral tilt	d-6	Leg section up/down
d-3	Back section up/down	d-7	Table up/down
d-4	Sliding	d-8	Pause ON/OFF

NOTE

- For the details of the STOP AT LEVEL SETTING screen, refer to Page 31.
- With the default setting, all functions are set to ON.

■ WIRELESS SETTING screen

Fig.E



No.	Name	No.	Name
e-1	IR code	e-3	TOP PAGE screen
e-2	Mode selection	e-4	Bluetooth address
		e-5	Connect switch *6
		e-6	Clear switch *6
		e-7	Force shutdown switch *6

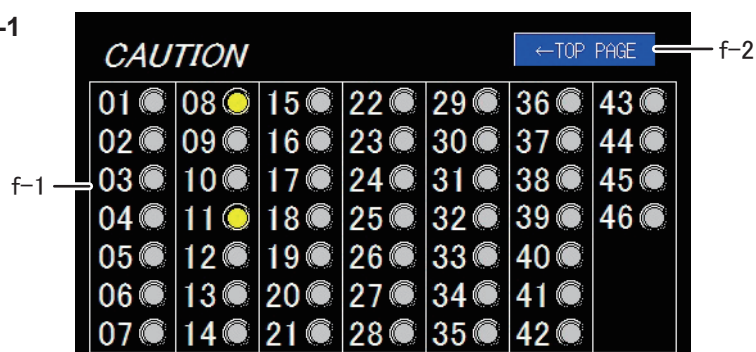
*6: Bluetooth mode only

NOTE

For the details of the WIRELESS SETTING screen, refer to Page 32 (Infrared mode) or Page 34 (Bluetooth mode).

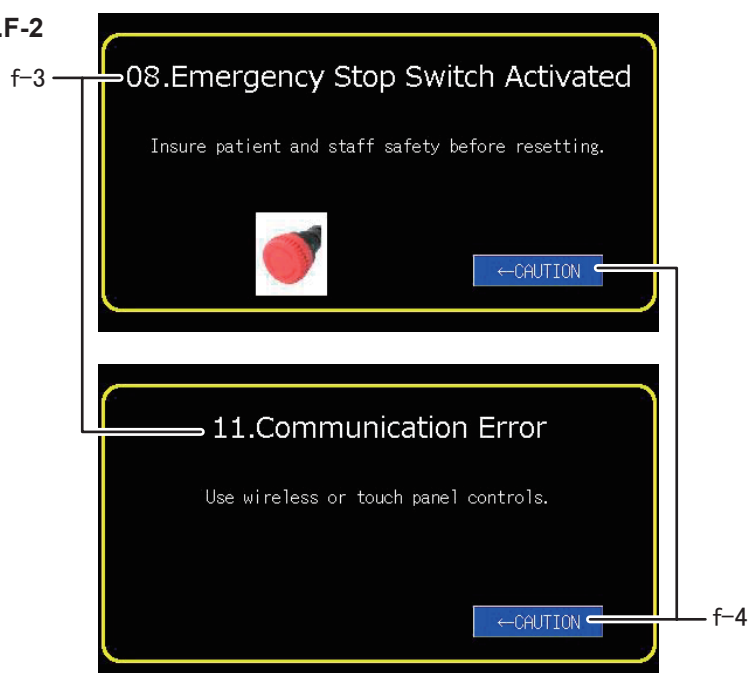
■ CAUTION/WARNING screen

Fig.F-1



■ Error screen

Fig.F-2



No.	Name	No.	Name
f-1	Details	f-3	Error No./Message
f-2	TOP PAGE screen	f-4	Go to the previous screen

NOTE

- To prevent damages, the operating table may stop automatically during the operation of the table and a caution/warning screen as shown above appears on the touch screen. For specific recovery procedures after the operating table stopped, refer to Page 78.
- When two or more cautions/warnings exist, each error can be seen through the caution/warning screen. Tap the CAUTION No. which is lit, and then the error screen will appear.
- The language that is selected with the language selection on the TOP PAGE screen is reflected only in the error screen message.
- The error screen languages support English, Japanese, Chinese, French, German, Portuguese, Russian, Italian and Spanish.

■ Special error screen

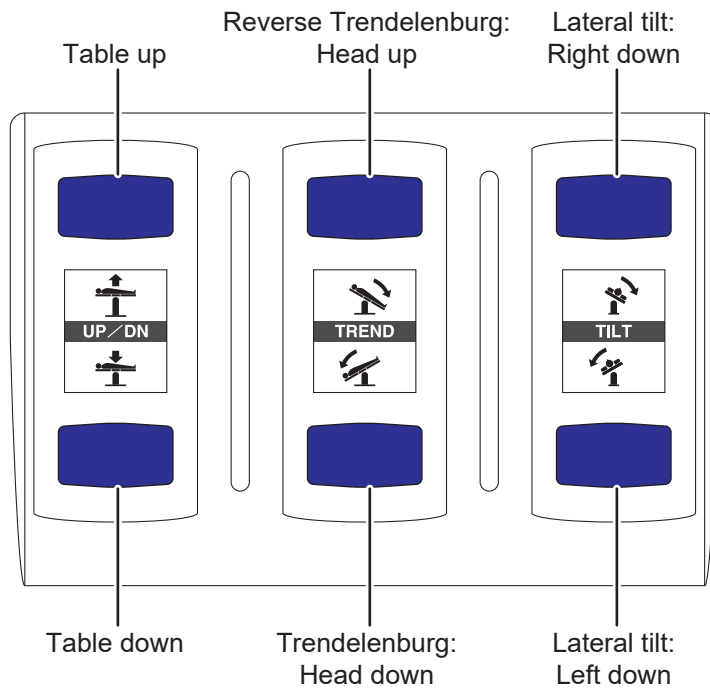
Fig.F-3



NOTE

- The special error screen as per the above may be displayed.
- There might be the touch screen connection error or the internal memory error.
- If the operating table is turned off and turned on again, the special error screen is still displayed, contact your distributor or MIZUHO for repairs.
- The special error screen does not support multiple languages.

3.4 Foot switch (optional)



NOTE

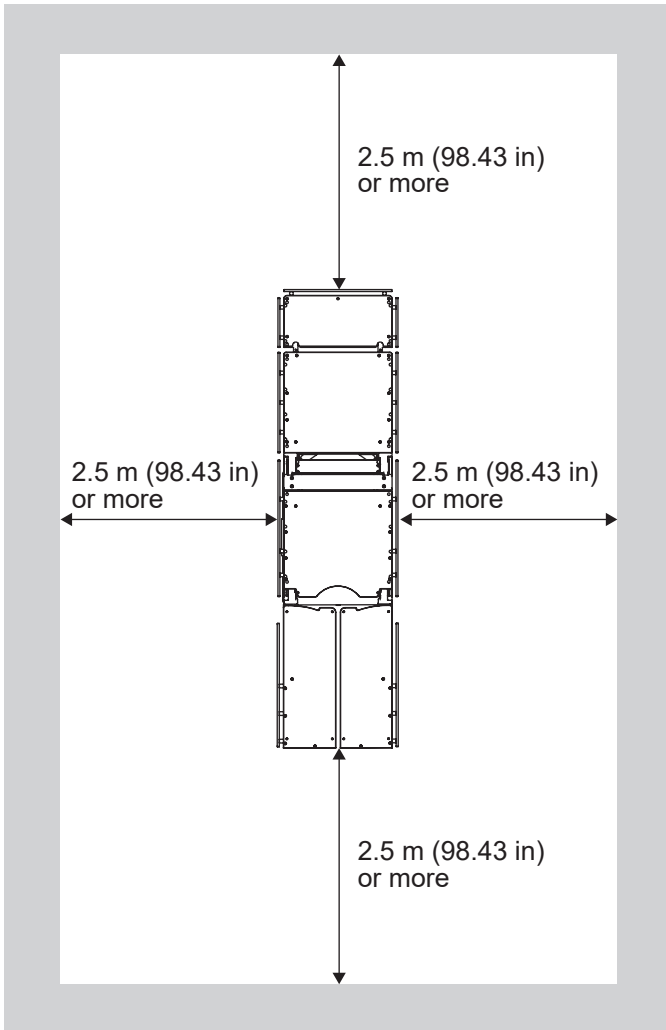
The foot switch does not support the reverse mode.

4. Installation

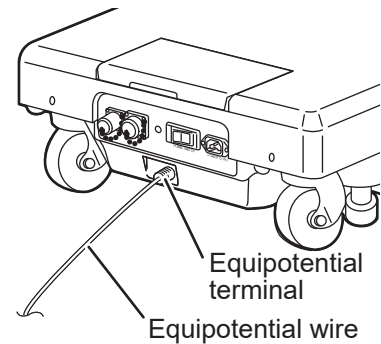
4.1 Installation of the operating table

■ Installation space

This product requires the installation space shown as below.



- 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.

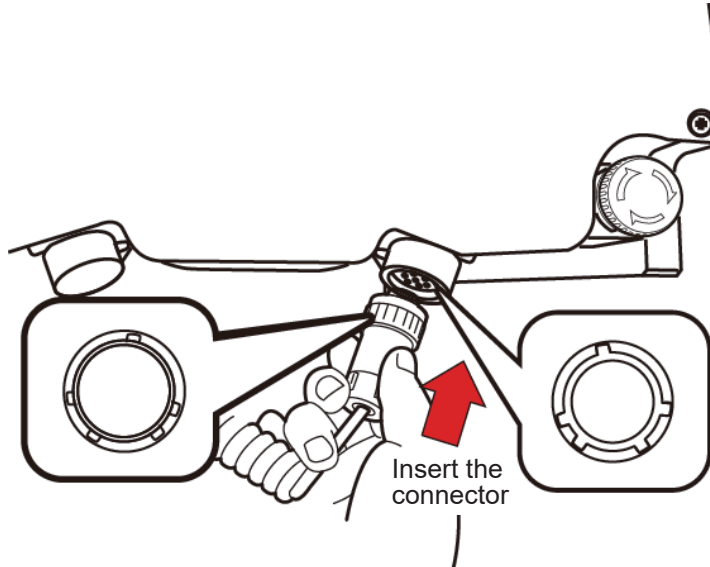


1. Move this product to a flat place to install it.

4.2 Attaching/Detaching the hand controller

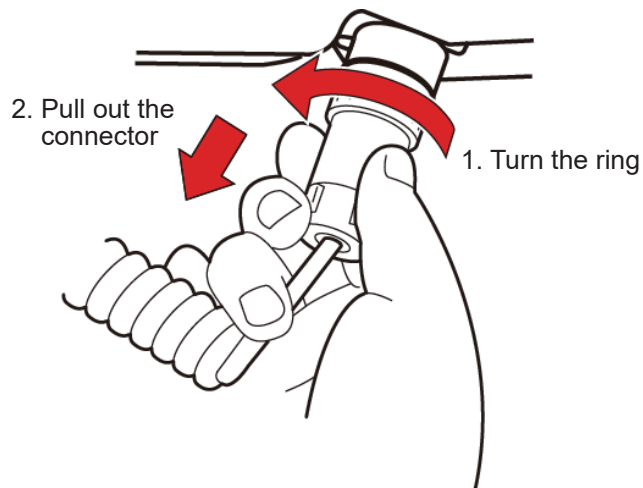
■ Attaching the hand controller

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



■ Detaching the hand controller

1. Turn the connector ring in the direction of the arrow until it stops.
2. Once it stops, pull out the connector.



■ Using the hand controller wirelessly

The hand controller can be detached from the main unit and used wirelessly.

“Infrared mode” and “Bluetooth mode” are available for wireless communication.

The default setting is the Bluetooth mode.

NOTE

- For how to set the infrared mode, refer to Page 32.
- For how to set the Bluetooth mode, refer to Page 34.



CAUTION

When using the hand controller wirelessly, an operating failure may occur, such as an interrupted connection caused by infrared and ambient light from peripheral medical devices.

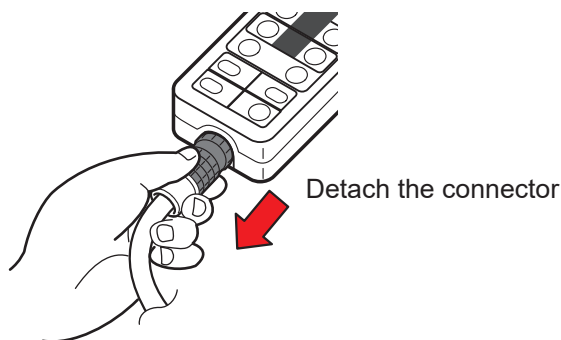
● Putting the hand controller to the wireless control status



CAUTION

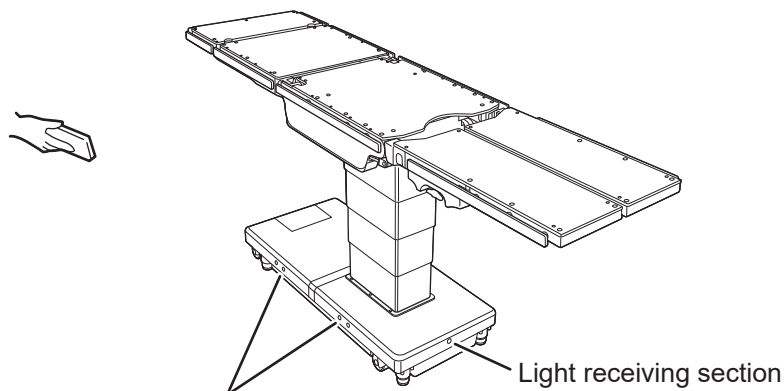
Hold the connector body to detach it. Holding the cord to detach the connector may cause breaking of the cord.

1. Detach the hand controller connector from the hand controller.




● Operation

1. Aim the hand controller toward the light receiving section on the operating table and operate the hand controller.



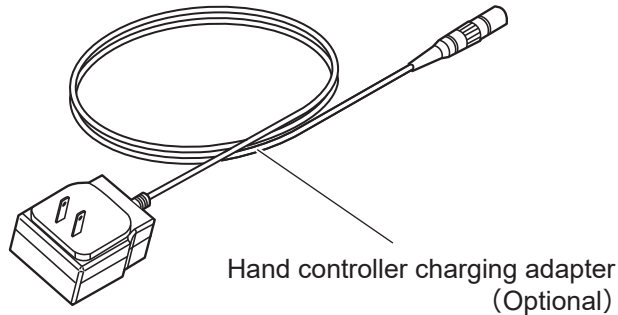
Light receiving section
(Another light receiving section is located on the opposite side)

NOTE

- While being used wirelessly, the hand controller works on the internal rechargeable battery. The hand controller cannot be used wirelessly when the battery level is low. If the hand controller charging lamp at the upper right of the hand controller blinks, connect the hand controller with the wire and immediately charge the hand controller.
- When the hand controller is used in the infrared mode, nothing appears on the monitor. However, by pressing , display the beach chair and the kidney bridge (MOT-VS700UKI only) operation screen.

● Charging

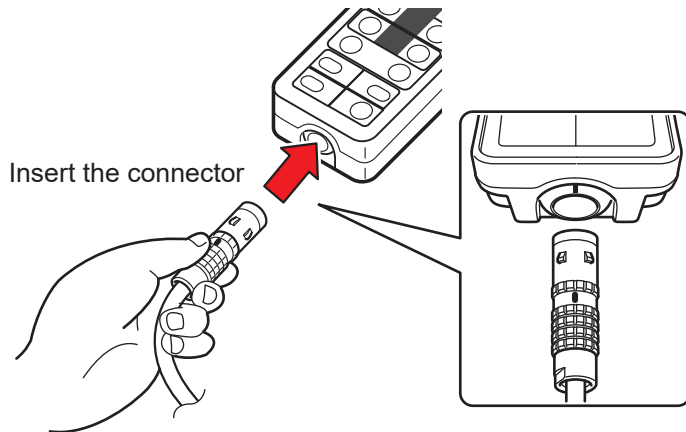
The hand controller cannot be used wirelessly when the battery level is low. If the hand controller charging lamp at the upper right of the hand controller flashes, connect the hand controller with the cord and immediately charge the hand controller. Use the hand controller charging adapter (optional) to charge the hand controller from your outlet.



NOTE

The battery of the hand controller can be recharged only when the battery is decreased in the power level and the charging lamp flashes.


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



NOTE

When the hand controller charging adapter connector is connected, the hand controller monitor screen will be displayed. In Infrared mode, the hand controller charging lamp will light up and charging will start. In Bluetooth mode, the hand controller charging lamp will light up after 5 to 10 seconds and charging will start.

If the hand controller charging lamp does not light up even if the hand controller charging adapter connector is connected, charging may not have started. Try the following.

1. Press , and check if the hand controller charging lamp lights up.
2. Unplug the hand controller charging adapter connector, and then replug it in.

If the hand controller charging lamp still does not light up, request your distributor or MIZUHO for repairs.

4.3 Turning on/off the power

This procedure is different between the powers from the medical grade outlet and the battery.



- 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.


4

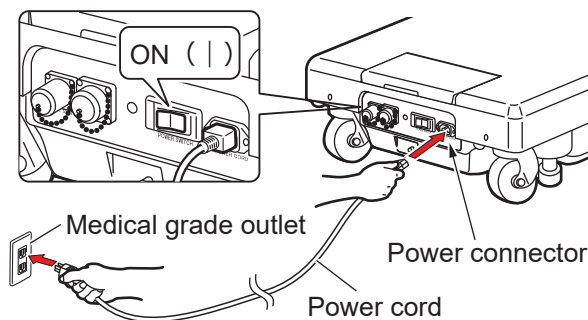
Installation

■ When the medical grade outlet is used

● Turning on the power

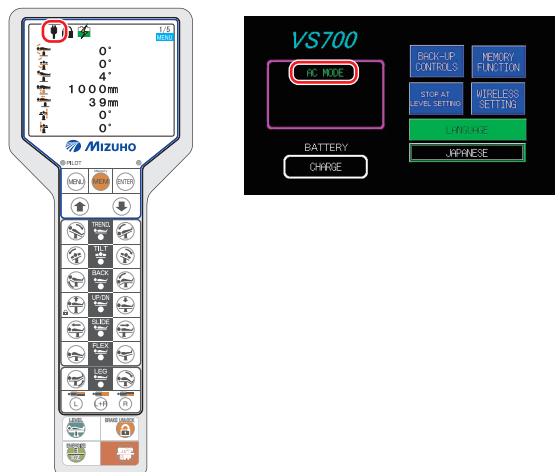
1. Connect the power connector of the product and the medical grade outlet with the power cord, and turn on the power switch.

The power switch (green) lights up, “AC MODE” appears on the touch screen, and  appears on the monitor screen of the hand controller.




NOTE

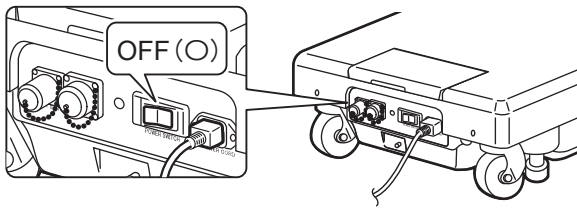
In an emergency or when turning off the power completely, disconnect the power cord from the medical grade outlet.



● Turning off the power

1. Turn off the power switch on the base.

The power switch (green) lights off, and  disappears on the monitor screen on the hand controller.



NOTE

If the power switch on the base is turned off or the power cord is disconnected, the battery mode (Page 28) is activated.




2. Press on the hand controller.


The touch screen and monitor screen light off.

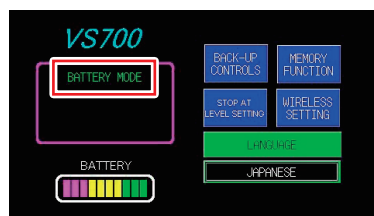
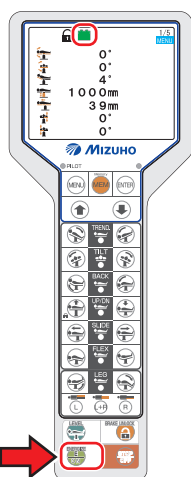
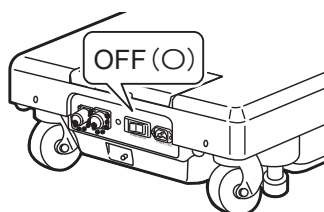


■ When the battery is used

● 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 the hand controller or the start switch on the right side of the touch screen.

“BATTERY MODE” appears on the touch screen, and  appears on the monitor screen of the hand controller.




Start switch

NOTE





When also being used wirelessly, turn on the power by pressing . However, if one day elapses with the operating table power switched off, it will not turn on even if  is pressed via the wireless connection. Press the start switch or  via the wired connection to turn on the power.

2. Check the display on the hand controller.

The battery needs to be charged if the battery level icon turns to  on the monitor screen.

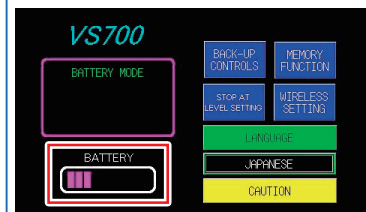


-Battery level display


100% - 70%	
69% - 20%	
19% - 1%	
0%	

NOTE

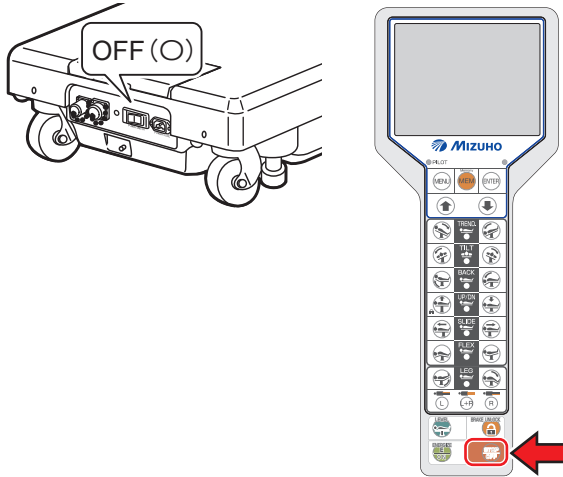
You can also use the battery indicator of the touch screen to check the charging status. When the battery indicator lights up only red, battery charging is necessary.



● Turning off the power

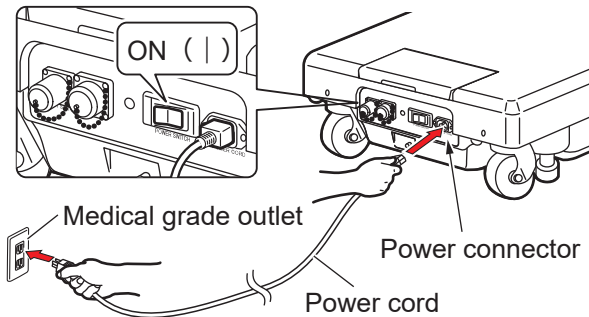
1. Press  on the hand controller when the power cord is disconnected to the power connector or the power switch on the base is turned off.

The touch screen and monitor screen light off.



4.4 Charging the battery

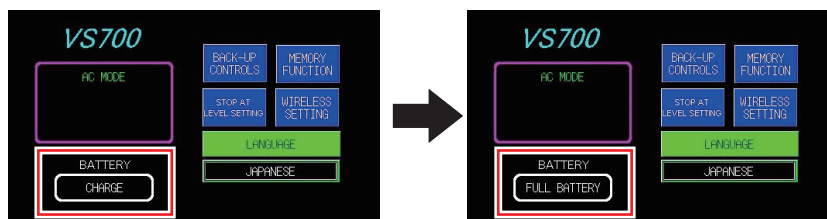
1. Connect the power connector of the product and the medical grade outlet with the power cord, and turn on the power switch.



Battery charging starts.

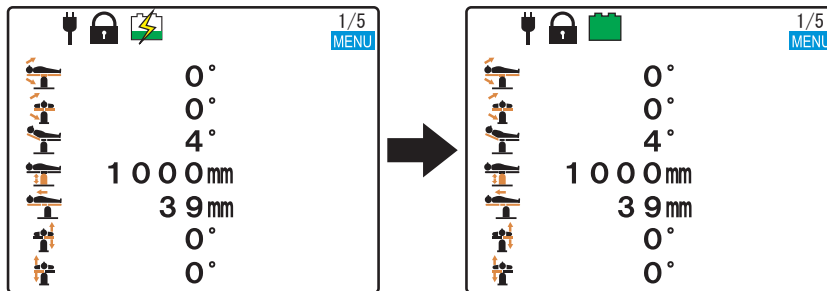
While charging, “CHARGE” appears on the battery indicator of the touch screen.

If the battery indicator changed to “FULL BATTERY,” the charging is completed.




While charging, ⚡ appears on the monitor screen of the hand controller.

If ⚡ disappears and changes to 🔋, the charging is completed.



NOTE

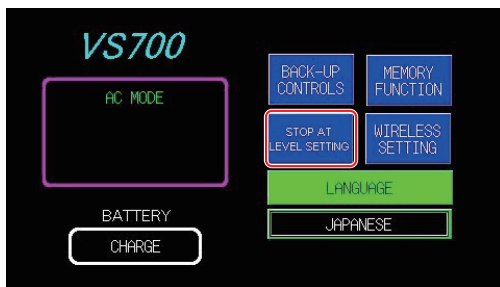
- Make sure to charge the battery when initially using the purchased product, or when it has not been used for a long time. The battery naturally discharges itself when it is not being used and is being stored.
- While the battery is being charged, you can operate the operating table.
- If the battery level on the monitor of the hand controller is , or the battery indicator on the touch screen is red only, immediately charge the battery. 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 5 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 “FULL BATTERY” does not appear on the battery indicator or the battery is discharged soon even after charging, the battery may be degraded. Request repairs from your distributor or MIZUHO.

5. Settings

5.1 Setting the pause functions at the level and center positions

With the default setting, the operating table pauses once at the level and center positions if the table is moved toward an opposite direction. You can set whether the operating table pauses or not at the level and center positions.

1. Show the “TOP PAGE” screen of the touch screen.
2. Tap “STOP AT LEVEL SETTING”.



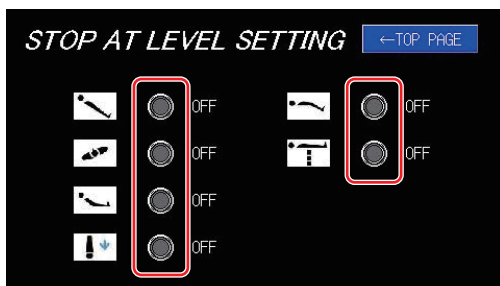
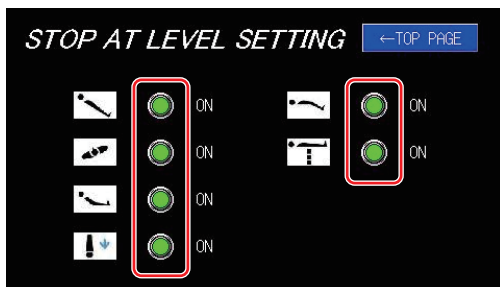
NOTE

For the procedure to show the “TOP PAGE” screen of the touch screen, refer to Page 16.

The “STOP AT LEVEL SETTING” screen appears.

3. Tap the lamp of the function that you want to cancel the pause of the operation at the level and center positions.

The lamp of the function that you tapped grays out, and the operating table is set so that it does not pause at the level and center positions.



NOTE

Tapping the lamp again turns the lamp green, which sets the operating table so that it pauses at the level and center positions.

NOTE

The elevation cancel the functions that pause the height at 620 mm (24.41 in) when it is being lowered.

5.2 Infrared mode

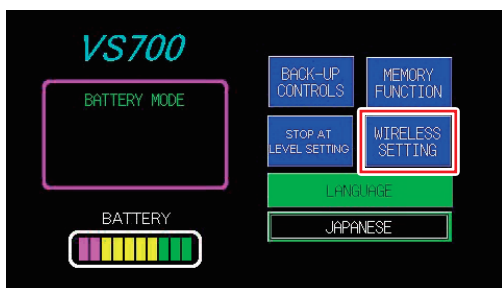


- The operating table does not function if the IR code displayed on the touch screen does not match with that on the monitor screen of the hand controller.
- When there are plural operating tables in one room, using the same IR code for them possibly causes cross talk resulting in malfunction. In this case, set the IR code for each operating table to a different number from the others.
- When using the hand controller wirelessly, an operating failure may occur, such as an interrupted connection caused by infrared and ambient light from peripheral medical devices.

■ Using with the infrared mode

1. Show the “TOP PAGE” screen of the touch screen.

2. Tap “WIRELESS SETTING”.

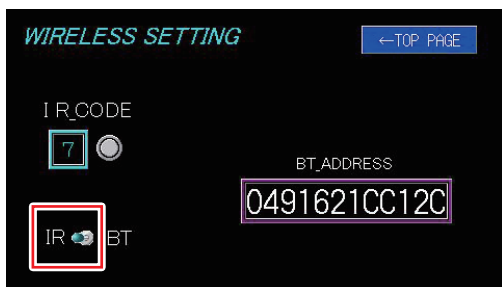


NOTE

For the procedure to show the “TOP PAGE” screen of the touch screen, refer to Page 16.

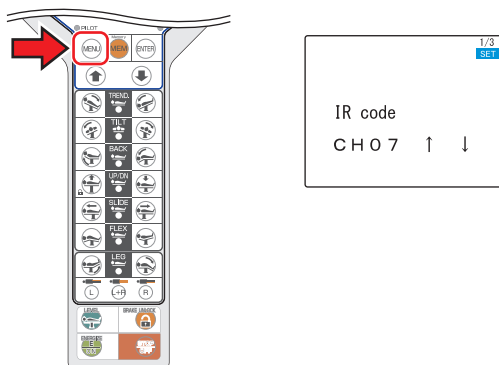
The “WIRELESS SETTING” screen appears.

3. Tap “IR”.

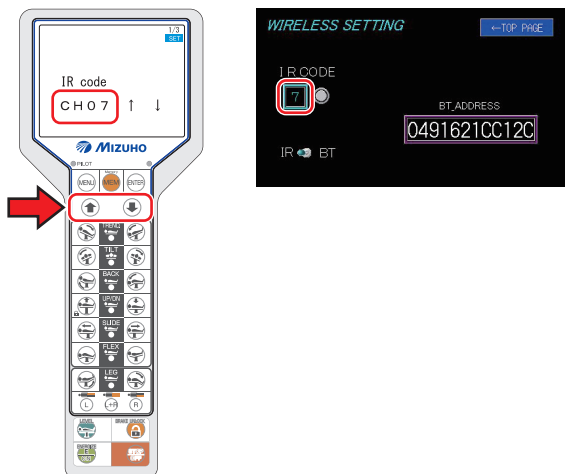


4. Hold down  for 10 seconds.

The IR code appears on the monitor screen of the hand controller.



- Press / to match the IR code displayed on the touch screen with that on the monitor screen of the hand controller.



NOTE

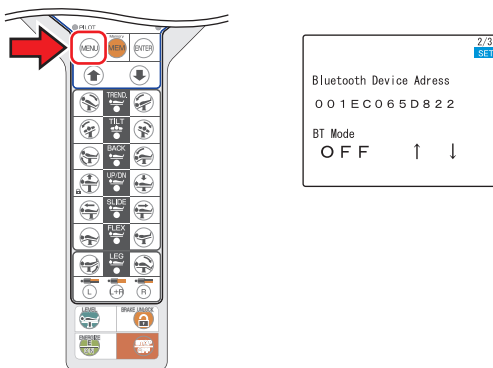
- The default IR code is “7”.
- The IR code can be selected from 0 to 7.

- Press .

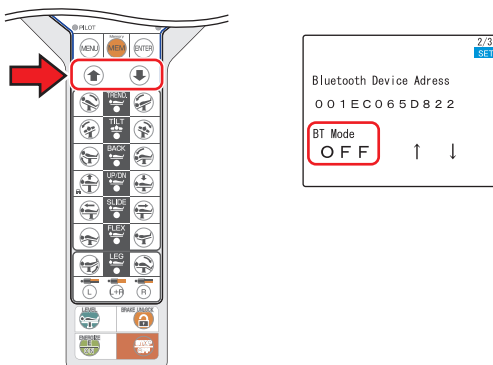
The IR code of the hand controller is changed.

- Press .

The Bluetooth setting screen appears.



- Press / to turn “BT Mode” to “OFF”.



- Press .

The BT mode of the hand controller turns off.

- Press .

- Detach the hand controller connector from the hand controller.

The monitor screen of the hand controller is hidden and the hand controller turns into the infrared mode.

NOTE

For how to detach the hand controller connector, refer to Page 24.

5.3 Bluetooth mode

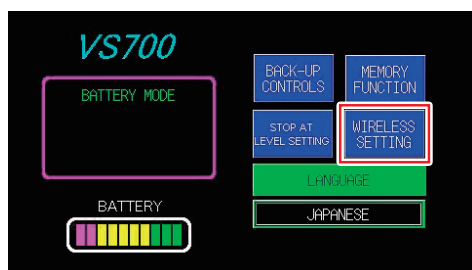


● Bluetooth wireless operation

- This function operates through the communication via Bluetooth. Do not use this function if your facility's rule bans wireless communication.
- Do not use the wireless communications if there are concerns that the medical devices will be affected by the effects of the radio waves when they are simultaneously being used. Other medical devices might be affected by the radio wave interference, etc., by the use of the wireless communications.
- If this function is being used, Bluetooth wireless operations might be affected by the radio wave interference from peripheral devices and thereby hinder operations by cutting off the connections, etc.
- If the operations are frequently being cut off, then either shut off the devices that are generating the electromagnetic waves in the vicinity, or connect and use the hand controller by wire.

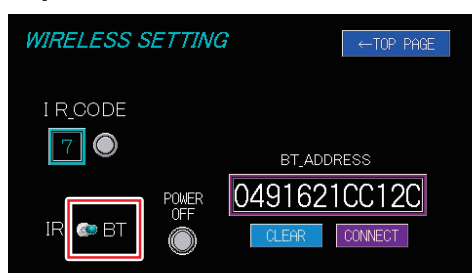
■ Using with the Bluetooth mode

1. Show the "TOP PAGE" screen of the touch screen.
2. Tap "WIRELESS SETTING".



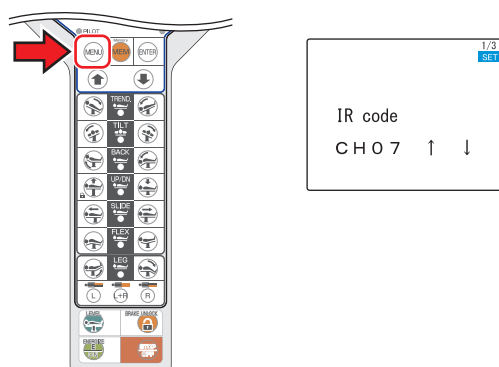
The "WIRELESS SETTING" screen appears.

3. Tap "BT".



4. Hold down  for 10 seconds.

The IR code appears on the monitor screen of the hand controller.

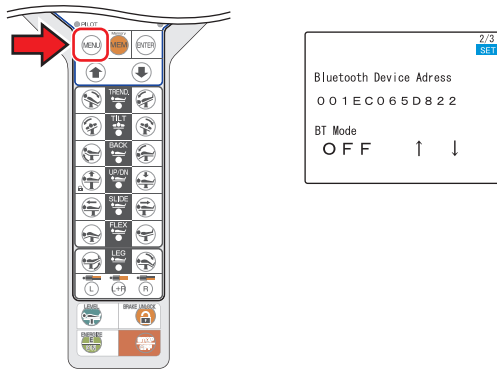


NOTE

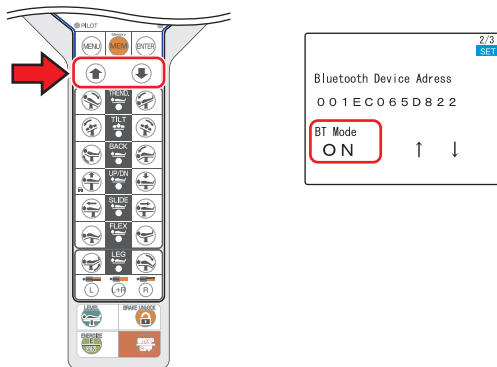
For the procedure to show the "TOP PAGE" screen of the touch screen, refer to Page 16.

5. Press **MENU**.

The Bluetooth setting screen appears.



6. Press **↑** / **↓** to turn “BT Mode” to “ON”.




7. Press **ENTER**.

8. Press **MENU**.

9. Detach the hand controller connector from the hand controller.

10. Press the function switch.

A message “NOW CONNECTING” appears. After completion of communication setting between the operating table and the hand controller,  appears on the monitor screen of the hand controller and the touch screen.

NOTE

For how to detach the hand controller connector, refer to Page 24.

NOTE

If no operation is done on the hand controller for more than 10 seconds when using the Bluetooth mode, the monitor screen automatically turns off.

NOTE

- If the Bluetooth connection fails, insert the connector into the hand controller and make the wired connection, then remove the connector and try the Bluetooth connection again.
- If the Bluetooth connection still fails, then try again after forcibly shutting down the operating table via the following steps.

[How to forcibly shut down]

1. If the medical grade outlet is being used, disconnect the medical grade outlet, and use the battery power.
2. Press and hold the force shutdown switch that appears on the touch screen WIRELESS SETTING screen for 3 seconds or more. The power will be forcibly turned off, so turn the power on again. (Refer to Page 26)

■ Precautions on replacement of the hand controller

Before using a new hand controller, be sure to default the Bluetooth address of the operating table by following the procedure below.

1. Attach the new hand controller to the operating table and turn on the power.
2. Turn on the BT mode on the hand controller.
3. Detach the hand controller from the operating table.
4. Tap “WIRELESS SETTING” of the touch screen.

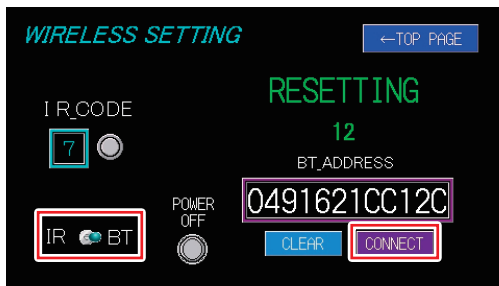
NOTE

For how to turn on the BT mode, refer to Page 34.



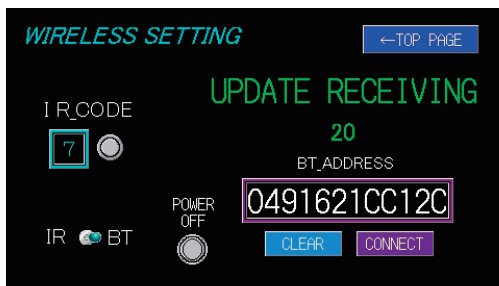
The “WIRELESS SETTING” screen appears.

5. Turn “BT” to ON and tap “CONNECT”, then wait for 12 seconds.



“UPDATE RECEIVING” appears.

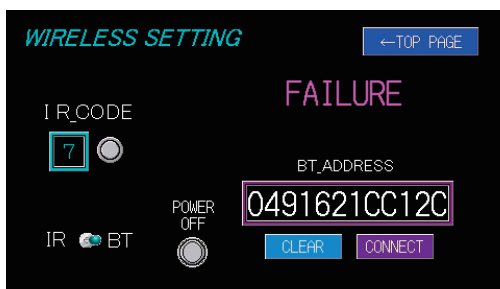
6. Press  of the hand controller within 20 seconds.



7. If “SUCCESS” appeared and the address changed, replacement has completed.



8. If “FAILURE” appeared, connection has failed. The battery of the hand controller may be discharged. Charge the battery and retry the connection.

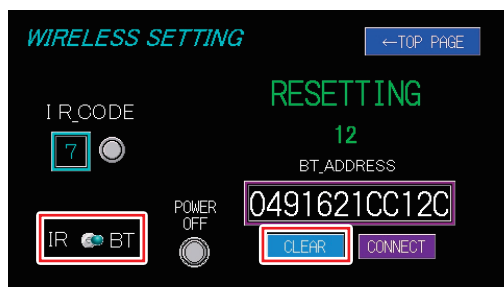


■ <Important> Using the hand controller with other operating table (MOT-VS700)

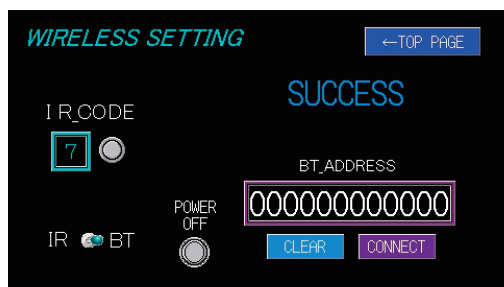
When using the current hand controller with other MOT-VS700, be sure to cancel the Bluetooth connection information (paring) by following the procedure below.

● Cancelling the connection information

1. Turn "BT" to ON and tap "CLEAR", then wait for 12 seconds.



The address turns to "0".



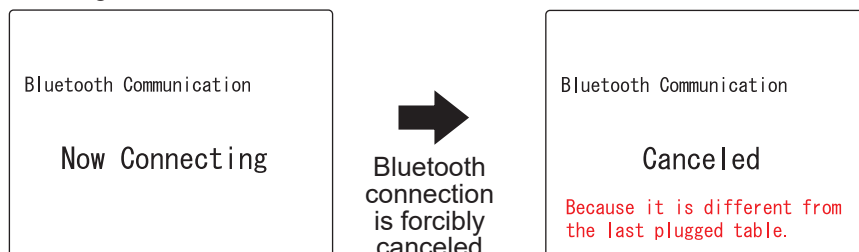
If using the hand controller with other MOT-VS700 without cancelling of the Bluetooth connection information, the following restrictions will happen in operation.

● Using by wired connection

Wired connection can be used without any restrictions.

However, if you once used by wire, the hand controller cannot be connected again with the original MOT-VS700 via Bluetooth and following warning screen appears.

Warning screen of the hand controller



● Using by Bluetooth connection

When you connect with other MOT-VS700 via Bluetooth, be sure to connect it by wire at first and turn on the power.

The operating table to be connected via Bluetooth is recognized.

However, the hand controller may connect with the original MOT-VS700, if it is nearby, due to nature of Bluetooth.

Be sure to follow the procedure described above to cancel the original pairing information and then try the connection.

5.4 Reverse mode

When a patient is placed in a reverse head-to-foot orientation, the reverse mode allows the operation with reference to the patient head.



The weight capacity in reverse mode is 135 kg (300 lbs). If the patient whose weight exceeds 135 kg (300 lbs) is placed on the operating table, then it may tip over, and the patient may thereby get injured.



The reverse mode deactivates the following operations.

- Flexing
- Reflexing
- Beach chair

In addition, the reverse mode cannot be used under the conditions below.

- When using with the Double Leg Section attached
The reverse orientation screen is not displayed.
Use with the Single Leg Section attached.
- When operating with the memory mode
The reverse orientation screen is not displayed.
Use after deactivating the memory mode.
- When operating with the touch screen
Only the normal operation (operating table standards) is available.
- When operating with the foot switch (optional)
Only the normal operation (operating table standards) is available.
- Operation via wireless infrared mode
In the reverse mode, operation via wireless infrared mode is disabled.


NOTE

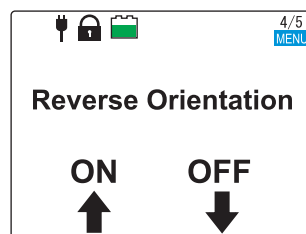
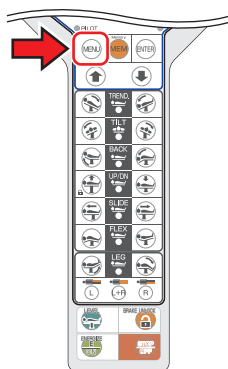
Operating with the reverse mode restricts the range of operations below.

- Trendelenburg angle
 - Head down: 30°
 - Head up: 40°
- Back section up/down angle
 - Up: 25°
 - Down: 90°
- Leg section up/down angle
 - Up: 90°
 - Down: 40°
- Sliding
 - Head direction:
415 mm (16.34 in)
 - Foot direction:
250 mm (9.84 in)

Other operations activate the same as normal mode.

■ Activating the reverse mode

1. Press  and select the reverse mode (Reverse Orientation).

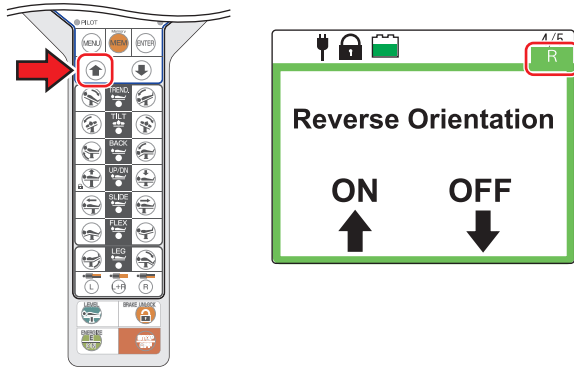


NOTE

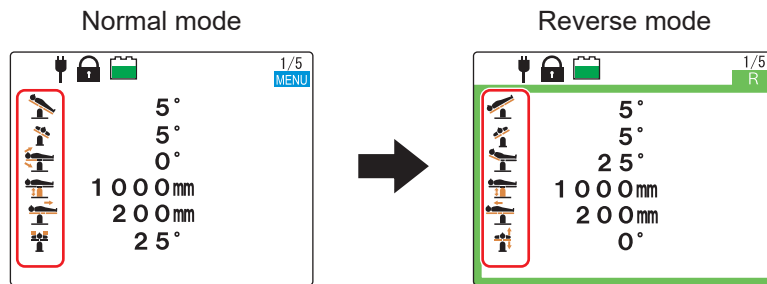
The reverse mode will be activated regardless of whether the head section is attached to either the back section or the Single Leg Section.

2. Press .

The reverse mode turns to ON and a green frame appears.



The direction of Trendelenburg, lateral tilting and sliding turns the other way around, and the icons and values for the back section and the leg section are switched with each other. The operation changes to that with the patient head placed on the leg section.

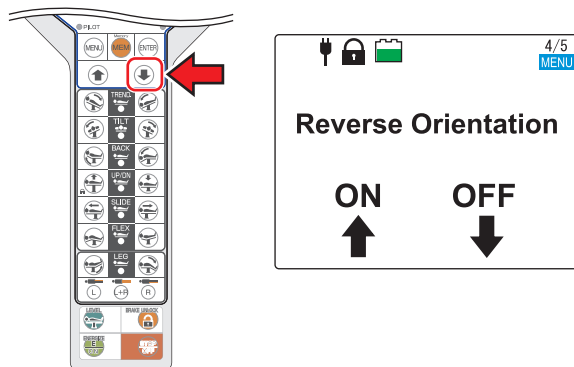


■ Deactivating the reverse mode

1. Press  and select the reverse mode (Reverse Orientation).

2. Press .

The reverse mode is deactivated.



NOTE

- The reverse mode is not canceled even if the power is turned off. If unnecessary, press the reverse mode switch to deactivate.
- If you replace the Single Leg Section with the Double Leg Section, the reverse mode will be deactivated.

6. Operation

6.1 Operating the emergency stop switch

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

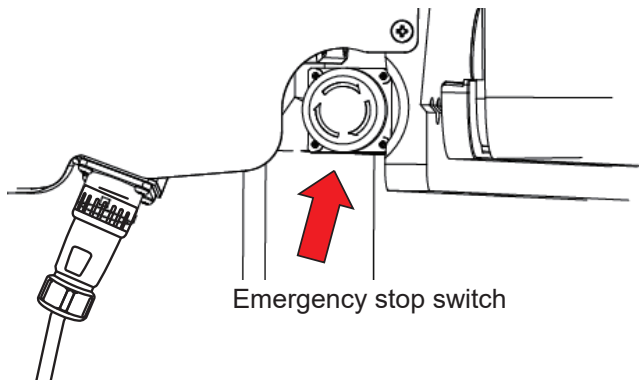


The emergency stop switch must be used only in an emergency.

■ 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.

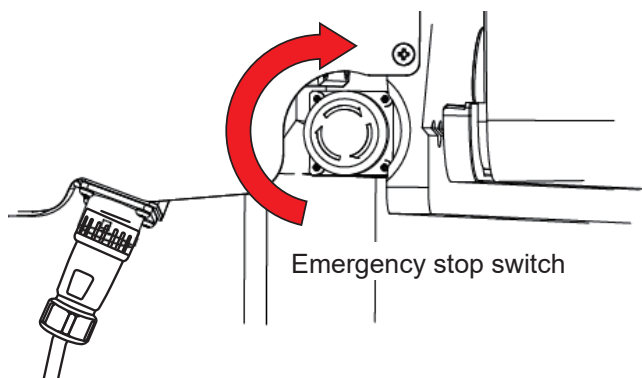
■ Canceling operations



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 in the direction of the arrow or pull it forward to cancel the emergency stop switch.

The buzzer stops sounding.



6.2 Fixing and unfixing the operating table


■ Fixing the operating table

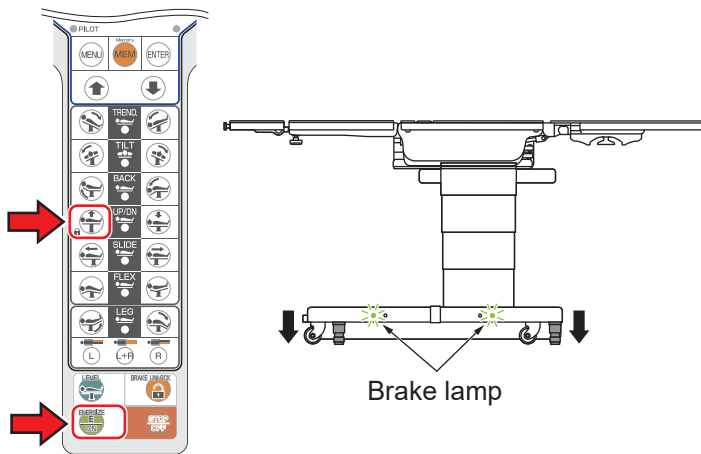
To operate the operating table, activate the brake to fix the operating table.



- 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 first and then .

The brake is activated to fix the operating table. The brake lamp on the base turns green, and  appears on the monitor screen.



NOTE

- Operations such as raising the tabletop will not operate until the operating table is fixed completely.
- Before placing the patient on the operating table, fix the operating table with the slide at the center position.
- In low temperature environments, the brake lamp may not turn green even if the operating table is fixed. In those cases, repeat the fixing operation. The brake lamp will turn green, and it will return to normal.

■ Unfixing the operating table

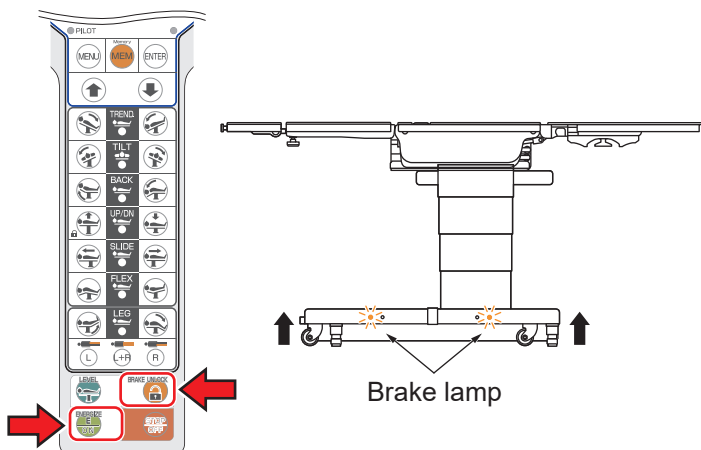
To move the operating table, unfix the operating table.



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

1. Press first and then for 1 second or more.

The brake is released for unfixing the operating table. The brake lamp on the base turns orange, and  appears on the monitor screen.



NOTE

It takes about 8 seconds to fix the operating table, and about 12 seconds to unfix the operating table.

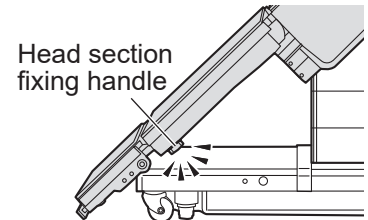
6.3 Trendelenburg



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.



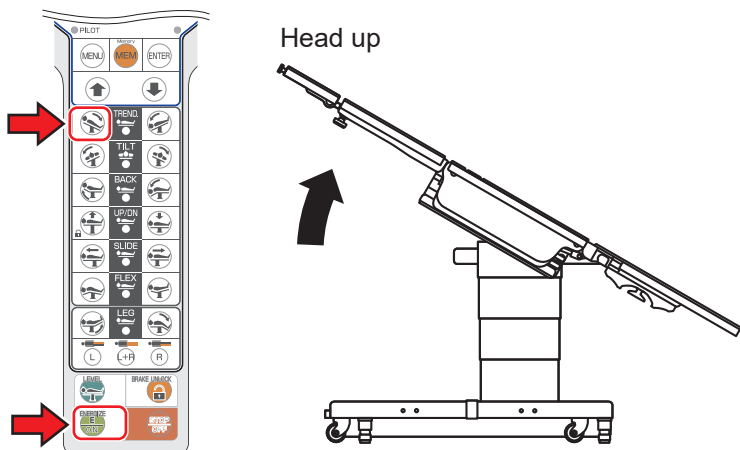
- Do not operate until the tip of the head section contacts the floor. It may get damaged.
- Do not operate until the head section fixing handle contacts the base. It may get damaged.



Reverse Trendelenburg (Head up)

1. Press first and then .

The tabletop moves to the head up position.



NOTE

- The maximum angle achieved in the head up position is 30° from the level position.

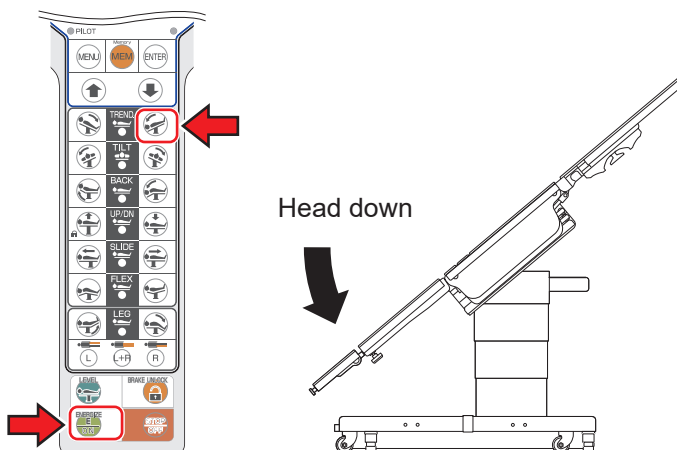


- When Trendelenburg is operated in the opposite direction from the current Trendelenburg position, it will stop in the level position. Once it stops, release the switch and press it once again; it will be tilted to the maximum angle.

Trendelenburg (Head down)

1. Press first and then .

The tabletop moves to the head down position.



NOTE

The maximum angle achieved in the head down position is 40° from the level position.



6.4 Tilting the tabletop laterally

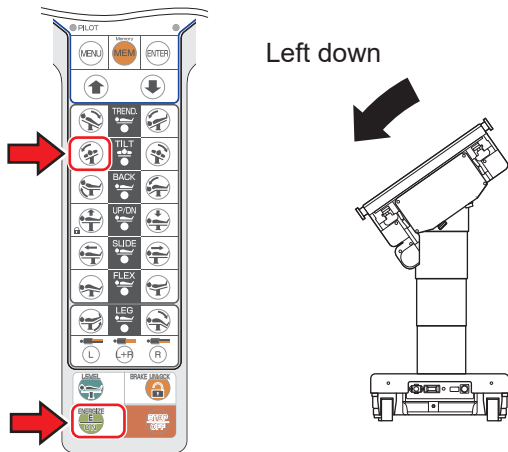


When you tilt the tabletop laterally with a patient on the operating table, make sure to use the fixing accessory for the MIZUHO operating table. The patient may fall from the operating table.

■ Tilting to the left

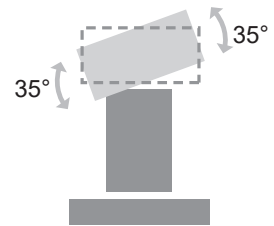
1. Press  first and then .

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



NOTE

- The maximum angle achieved in the left down position is 35° from the level position.

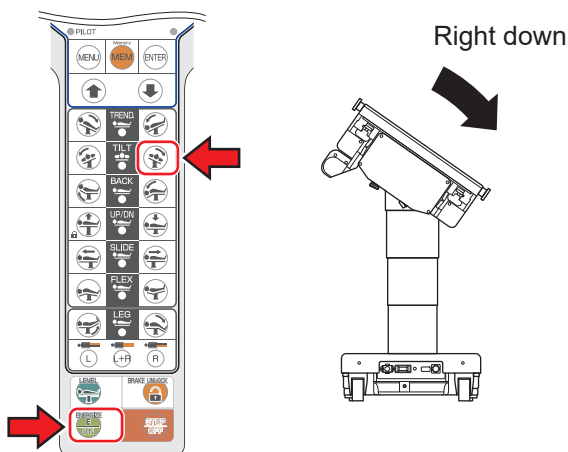


- When lateral tilt is operated in the opposite direction from the current lateral tilt position, it will stop in the level position. Once it stops, release the switch and press it once again; it will be laterally tilted to the maximum angle.

■ Tilting to the right

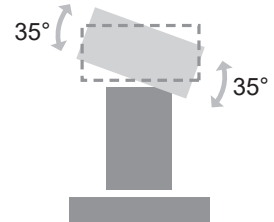
1. Press  first and then .

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



NOTE

- The maximum angle achieved in the right down position is 35° from the level position.

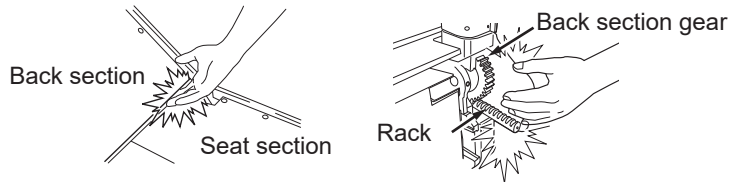


6.5 Back section up/down



Keep your hands away from the following gap during the operation of the table. Otherwise you may get injured.

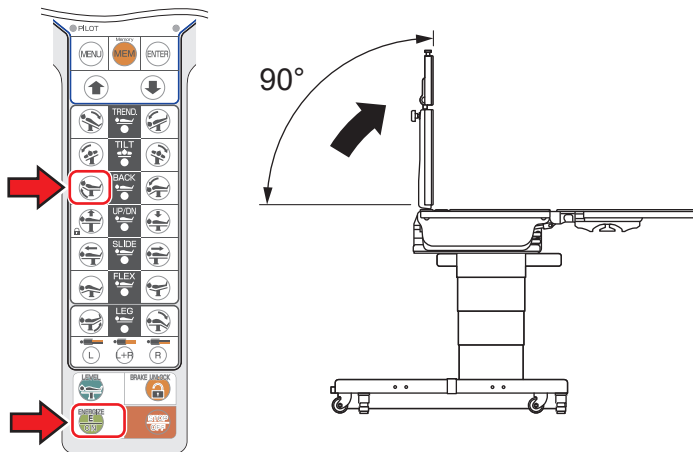
- Gap between the back section and seat section
- Gap between the back section gear and rack



■ Moving up the back section

1. Press  first and then .

The back section moves up.

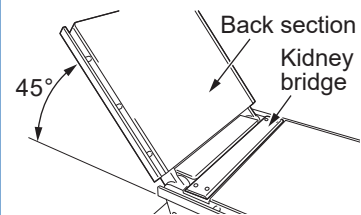


NOTE

- The maximum angle achieved in the back section up position is 90° from the level position.
- When the back section is tilted in the opposite direction from the current tilted back section position, it will stop in the level position. Once it stops, release the switch and press it once again; it will be tilted to the maximum angle.

[MOT-VS700UKI only]

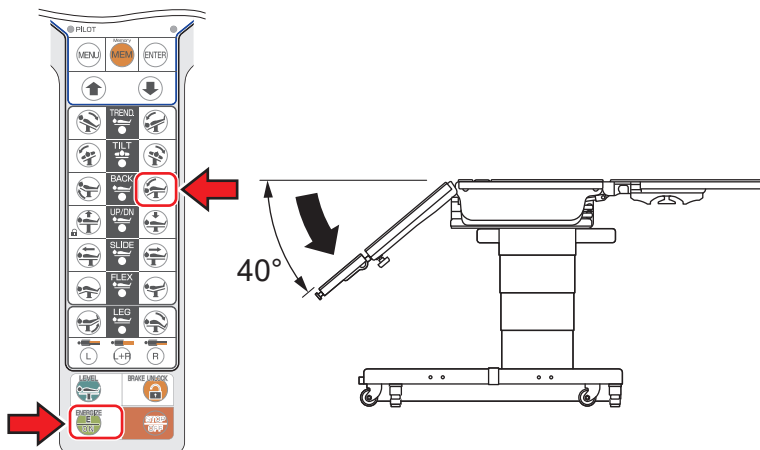
- When the kidney bridge is up, the back section will not move up to 45° or higher from the level position and the buzzer will sound.



■ Moving down the back section

1. Press  first and then .

The back section moves down.



NOTE

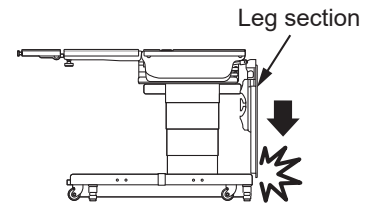
- The maximum angle achieved in the back section down position is 40° from the level position.
- When the tabletop center point is slid in the foot direction beyond the center position, the back section is approaching the interference area, so the buzzer will sound and it will stop. If the tabletop center point is slid in the head direction beyond the center position, the back section will move down more.

6.6 Changing the tabletop height



Do not move down the tabletop with the leg section bent down at 90°.

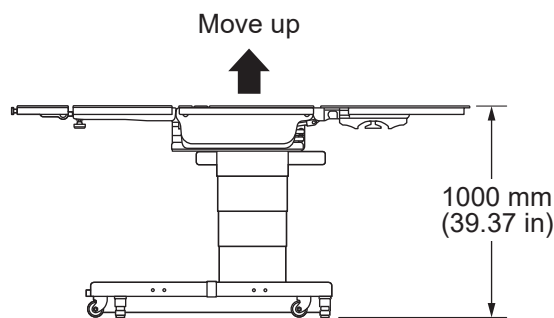
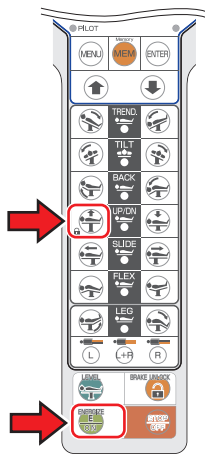
The tip of the leg section may come in contact with the floor or the base and get damaged.



■ Moving up the tabletop

1. Press first and then .

The tabletop moves up.



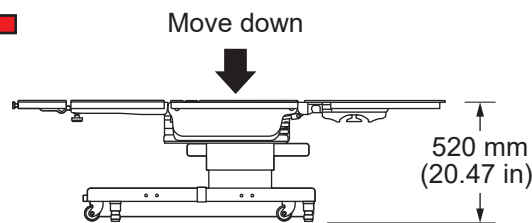
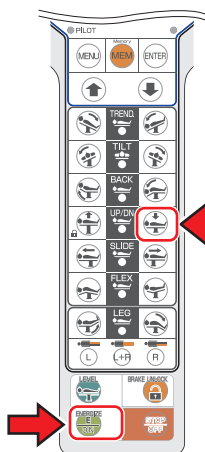
NOTE

The maximum height from the floor to the tabletop upper surface is 1000 mm (39.37 in).

■ Moving down the tabletop

1. Press first and then .

The tabletop moves down.



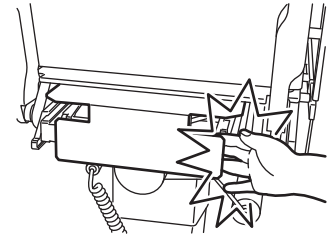
NOTE

- The minimum height from the floor to the tabletop upper surface is 520 mm (20.47 in).
- When the tabletop moves down with the back/leg section bent down, the back/leg section is approaching the interference area, so the buzzer will sound and it will stop. If the back/leg section is bending up, the tabletop can move down more.
- While moving down, the tabletop stops at a height of about 620 mm (24.41 in). Press again, then the tabletop can move down more.

6.7 Sliding the tabletop



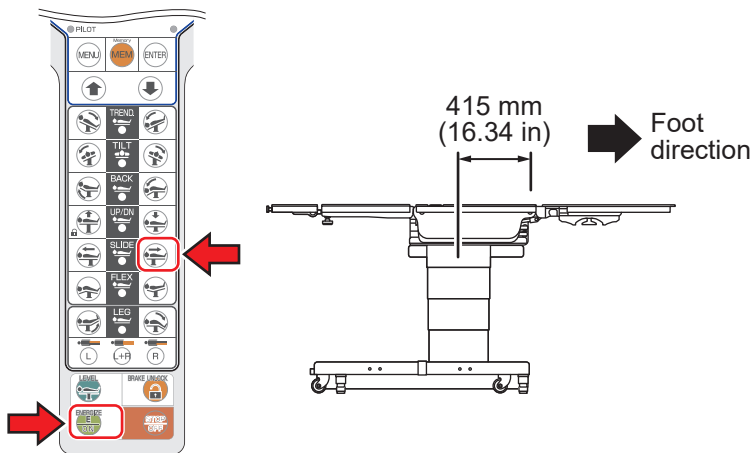
WARNING Keep your hands away from the gap of the frame during the operation of the table. Otherwise you may get injured.



■ Sliding in the foot direction

1. Press  first and then .

The tabletop slides in the foot direction.



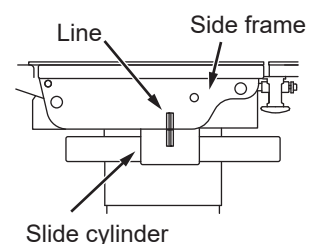
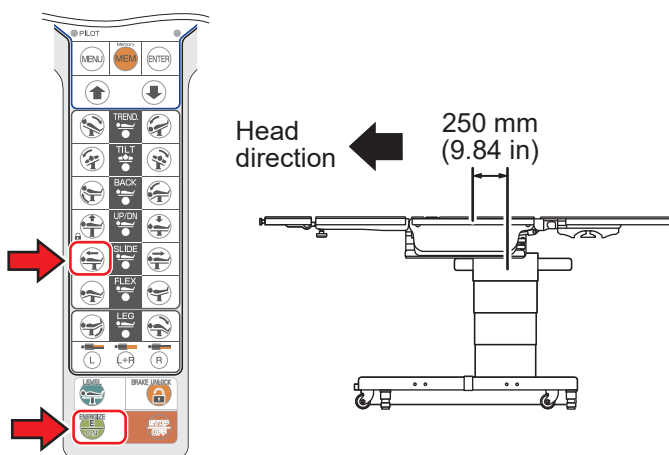
NOTE

- The slide's maximum travel from the center position of the tabletop is as follows.
 - Foot direction: 415 mm (16.34 in)
 - Head direction: 250 mm (9.84 in)
- When the tabletop reaches the center position, the level/center lamp on the hand controller turns on.
- When sliding is operated in the opposite direction, it will stop at the center position. Once it stops, release the switch and press it once again; it will be slid to the maximum range.
- When the tabletop is slid with the back/leg section bent down, the back/leg section is approaching the interference area, so the buzzer will sound and it will stop. If the back/leg section is bending up more above the level position, the tabletop can be slid more.
- The tabletop center position is the position where the side frame line and slide cylinder line are all aligned.

■ Sliding in the head direction

1. Press  first and then .

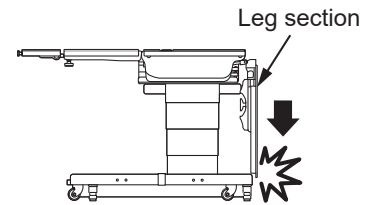
The tabletop slides in the head direction.





6.8 Leg section up/down



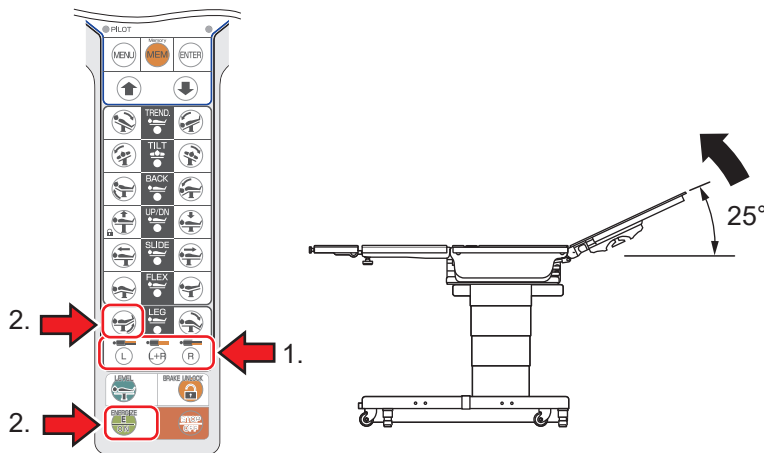
- Do not operate the reverse Trendelenburg with the leg section down. The tip of the leg section may come in contact with the base and get damaged.
- Do not move down the tabletop with the leg section bent down. The tip of the leg section may come in contact with the base and get damaged.



■ Moving up the leg section

1. Select the leg section to be operated.
2. Press  first and then .



The leg section moves up.



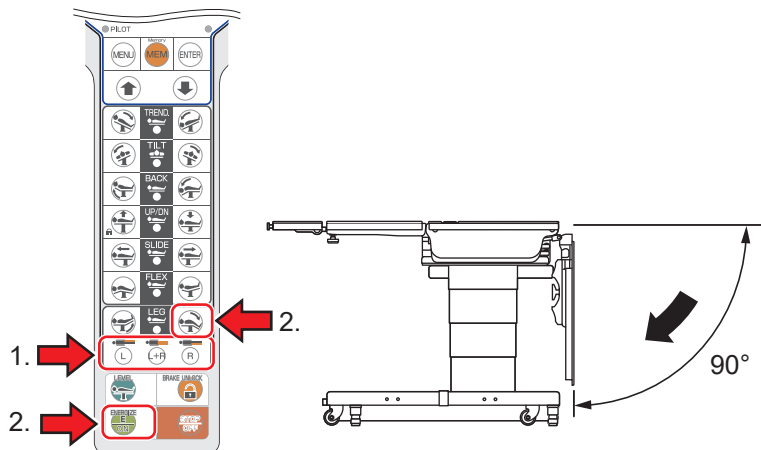
NOTE

- If the Single Leg Section is attached, step 1 is not required.
- The maximum angle achieved in the leg section up position is 25° from the level position.
- When the leg section up/down is operated in the opposite direction from the leg section bending position, it will stop in the level position. Once it stops, release the switch and press it once again, it will be bent to the maximum angle.

■ Moving down the leg section

1. Select the leg section to be operated.
2. Press  first and then .

The leg section moves down.



NOTE

- If the Single Leg Section is attached, step 1 is not required.
- The maximum angle achieved in the leg section down position is 90° from the level position.
- When the tabletop center point is slid in the head direction beyond the center position, the leg section is approaching the interference area, so the buzzer will sound and it will stop. If the tabletop center point is slid in the foot direction beyond the center position, the leg section will be bent down more.

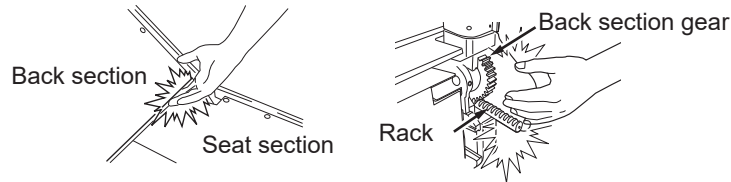
6.9 Flexing or reflexing the tabletop



Keep your hands away from the following gap during the operation of the table.

Otherwise you may get injured.

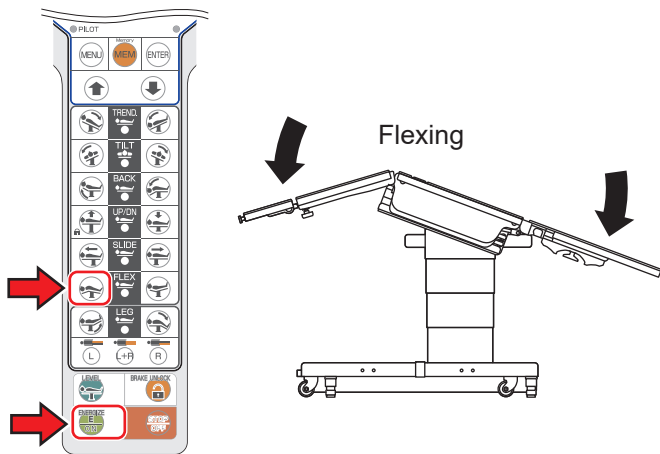
- Gap between the back section and seat section
- Gap between the back section gear and rack



Flexing the tabletop

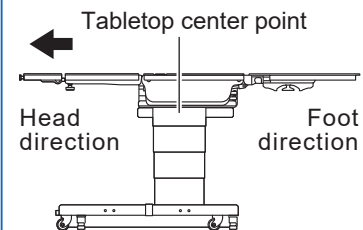
1. Press  first and then .

The back section bends downward and the seat section turns to the reverse Trendelenburg (head up) position.



NOTE

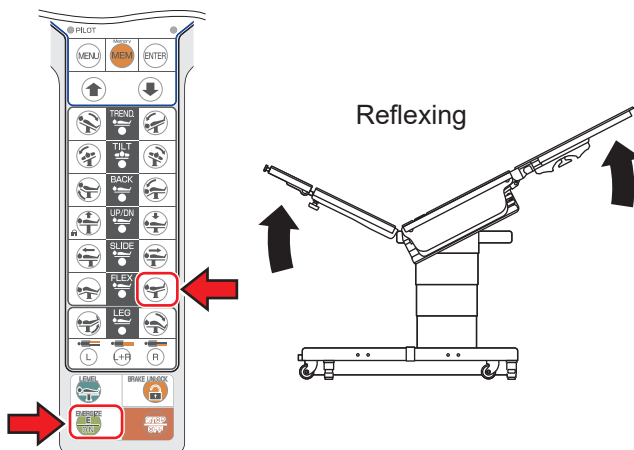
When the tabletop center point is slid in the foot direction beyond the center position, it is approaching the interference area, so flexing will not operate and the buzzer will sound. If the tabletop center point is slid in the head direction beyond the center position, flexing will operate.



Reflexing the tabletop

1. Press  first and then .

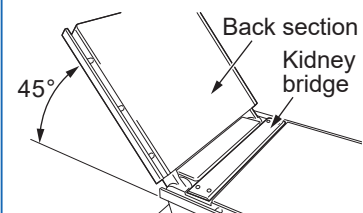
The back section bends upward and the seat section turns to the Trendelenburg (head down) position.



NOTE




[MOT-VS700UKI only]

When the kidney bridge is moved up, the reflexing position will stop at the position the back section is bent at 45°. If the kidney bridge is moved down, the back section will be bent to 90°.

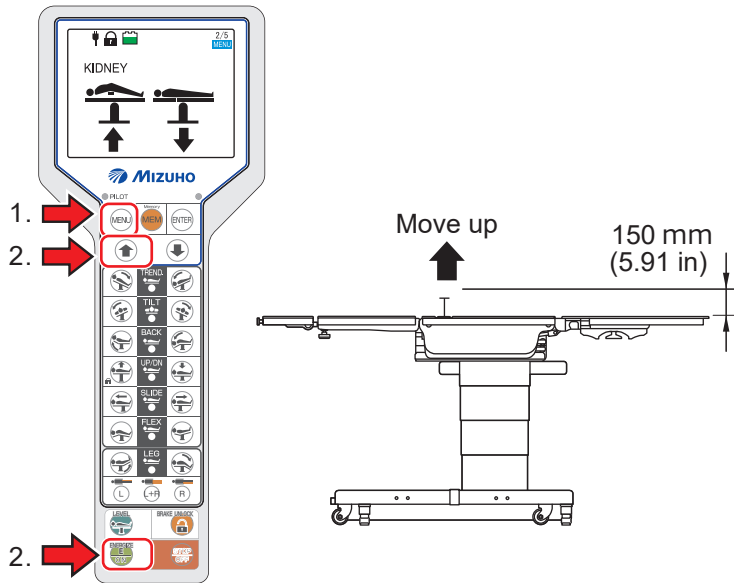


6.10 Change height of the kidney bridge (MOT-VS700UKI only)




■ Moving up the kidney bridge

1. Press  first and then select “KIDNEY”.
2. Press  first and then .

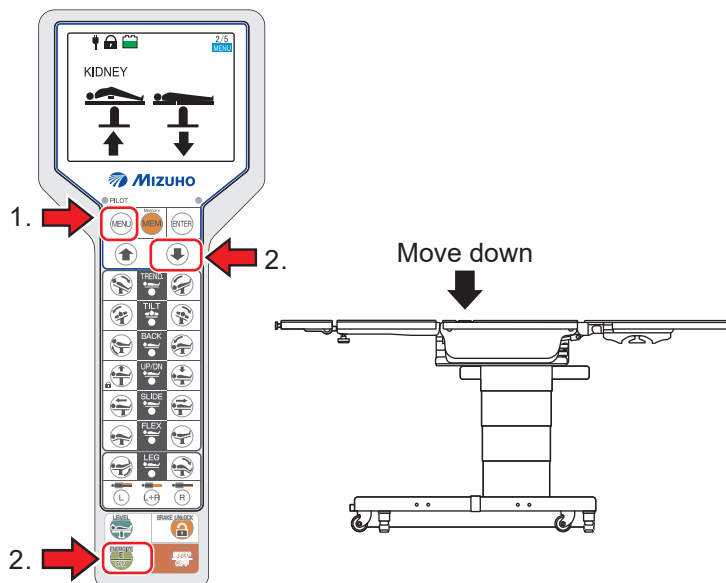
The kidney bridge moves up.



■ Moving down the kidney bridge

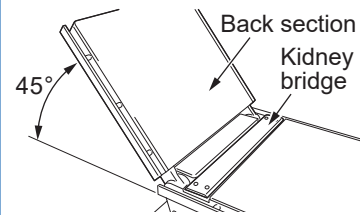
1. Press  first and then select “KIDNEY”.
2. Press  first and then .

The kidney bridge moves down.



NOTE

- The highest position is 150 mm (5.91 in) from the surface of the tabletop.
- The lowest position is the same level of the surface of the tabletop.
- When the back section is bent up to 45° or more above the level, the kidney bridge will not move up and the buzzer will sound. If the back section is bent down to 45° or less the level, the kidney bridge will move up.



- When the back section is bent up to 45° or more above the level at the reflexing position, the kidney bridge will not move up and the buzzer will sound. If the back section is bent down to 45° or less the level, the kidney bridge will move up.
- When the back section is bent up to 45° or more above the level at the beach chair position, the kidney bridge will not move up and the buzzer will sound. If the back section is bent down to 45° or less the level, the kidney bridge will move up.

NOTE

The kidney bridge operations do not support the memory functions.

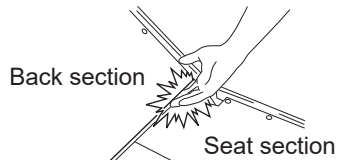
6.11 Beach chair



Keep your hands away from the following gap during the operation of the table.

Otherwise you may get injured.

- Gap between the back section and seat section



■ Beach chair

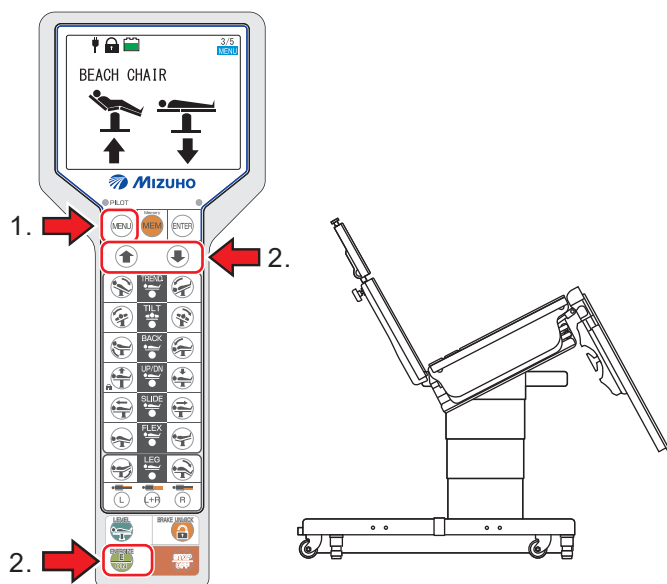
1. Press  first and then select “BEACH CHAIR”.

2. Press  first and then .

The operating table gets into the beach chair position.

NOTE

The beach chair operations do not support the memory functions.



6.12 Return to level

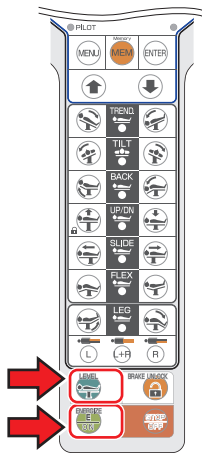
■ Return the tabletop to the level position

1. Press  first and then .

The tabletop from the Trendelenburg, lateral tilting, back section up/down, flexing, leg section up/down, beach chair and kidney bridge lifting position (MOT-VS700UKI only) will return to the level position.

NOTE

Elevation, sliding and braking do not function.



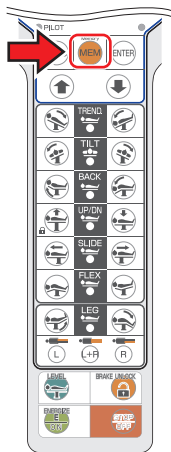
6.13 Operating/Registering memory

By registering an arbitrary position of the operating table into the memory, the operating table can reproduce the registered position easily.

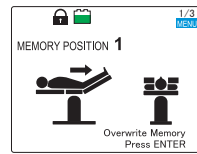
■ Registering a position of the tabletop

● Registering with the hand controller

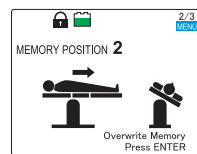
1. Put the tabletop to a position you wish to register.
2. Press **MEM** several times until a memory in which you wish to register appears.



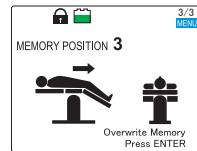
MEMORY POSITION 1



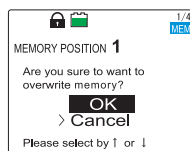
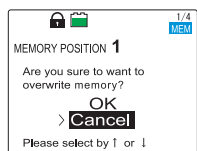
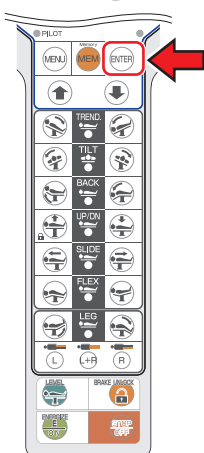
MEMORY POSITION 2



MEMORY POSITION 3



3. Press **ENTER**.



A message "Are you sure to want to overwrite memory?" appears. To register the current position, press **MEM**, select "OK", and again press **ENTER**.

NOTE

- The number of memories that can be registered is 3.
- If the positions in the registered memories are overwritten, then the registered memories will be deleted.
- In the wireless (infrared mode), no memory can be registered.
- In the reverse mode, no memory can be registered.

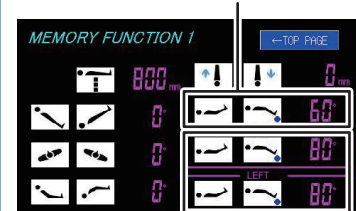
NOTE

When the monitor screen is displaying the "Normal screen" or "Current position", if **MEM** is pressed, then the MEMORY POSITION screen is displayed.

NOTE

As to the leg section, register the attached one from the Double or Single Leg Section. The memory position to be reproduced with the Double Leg Section attached is the registered value with the Double Leg Section attached. The memory position to be reproduced with the Single Leg Section attached is the registered value with the Single Leg Section attached.

Memory of Single Leg Section



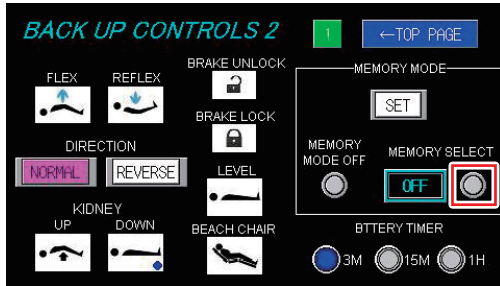
Memory of Double Leg Section

● **Registering with the touch screen**

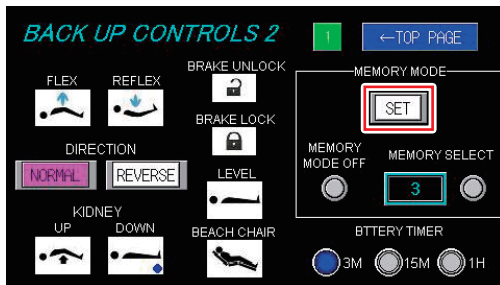
1. Put the tabletop to a position you wish to register.
2. Tap “MEMORY SELECT” several times until the memory number in which you wish to register appears.

NOTE

- The number of memories that can be registered is 3.
- If the positions in the registered memories are overwritten, then the registered memories will be deleted.



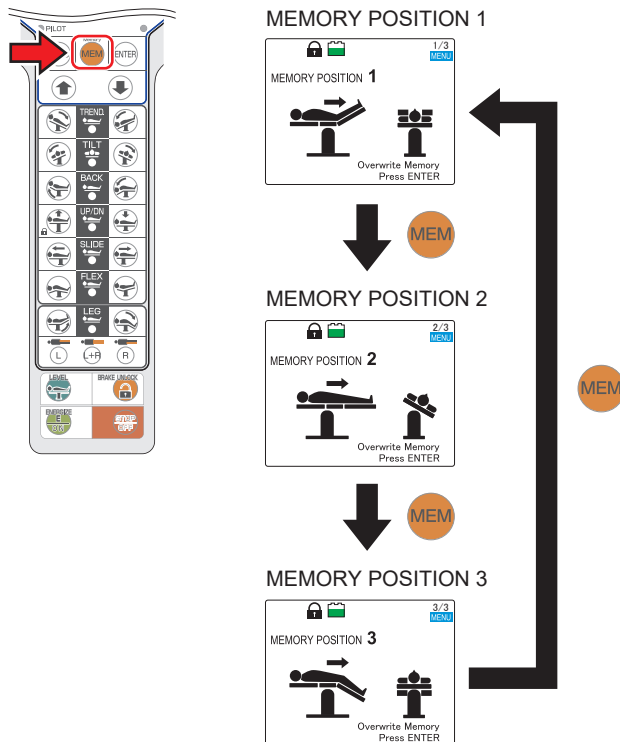
3. If the memory number you wish to register appeared, tap “SET”.



■ Reproducing a registered position

● Reproducing with the hand controller

1. Press **MEM** several times until a memory in which you wish to use appears.



NOTE

- To close the memory mode, press **MEM**.
- In the reverse mode, no memory can be operated.
- In memory mode, the beach chair and kidney bridge (MOT-VS700UKI only) operations are not operable.

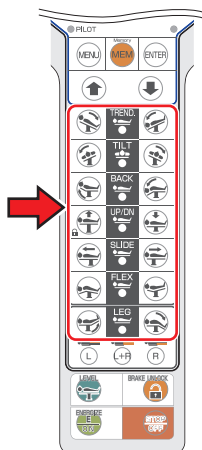
NOTE

When the monitor screen is displaying the "Normal screen" or "Current position", if **MEM** is pressed, then the MEMORY POSITION screen is displayed.

2. Press **ON**.

The function switch necessary for reproducing the position lights up.

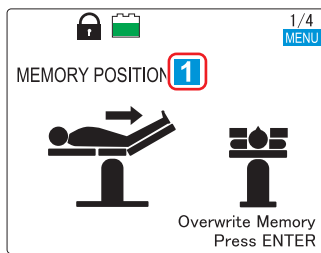
3. Keep pressing the switch lit until the tabletop stops moving.



The function switch you operated lights off.

4. Repeat step 3 until all the function switches lit off.

When the tabletop is moved to the target position, the number of “MEMORY POSITION” turns blue.



● Reproducing with the touch screen



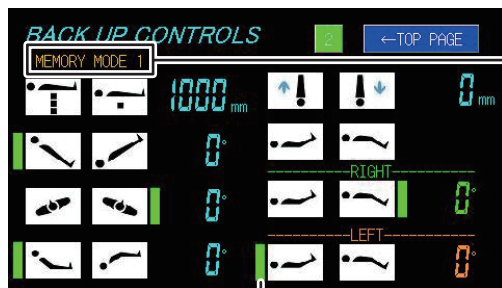
Only use the BACK-UP CONTROLS on the touch screen in an emergency.

1. Tap “MEMORY SELECT” several times until a memory in which you wish to use appears.

The memory guides are displayed on the function switches that are needed in order to reproduce the position.

NOTE

Tapping “MEMORY MODE OFF” restores the normal mode.



Appears in the memory mode

Memory guide

2. Tap the function switches that are displaying the memory guides.

3. Repeat step 2 until all of the memory guide displays disappear.

The tabletop will reproduce the registered memory position.

NOTE

Unlike the hand controller, the touch screen does not pause at the registered position, because the operation limit does not work.

6.14 Adjusting the head section

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



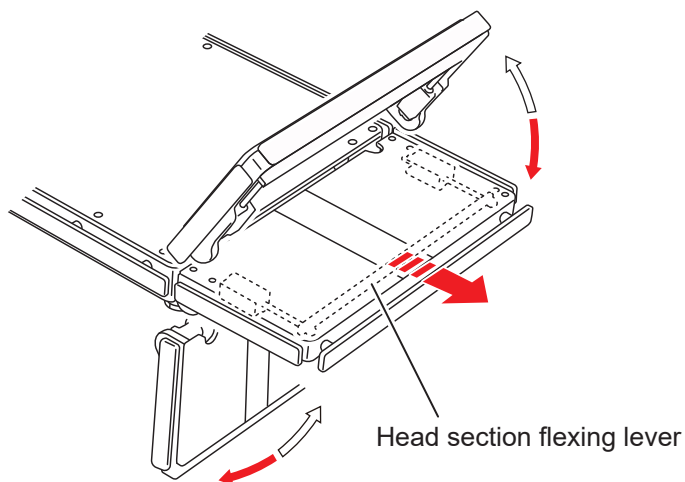
The head section weighs 6 kg (13.2 lbs). Pay special attention when handling it. It may drop and cause damage or injury.

■ Head section up/down

1. Pull the head section flexing lever toward the head direction. The head section can be bent upward and downward. When releasing the lever, the head section is fixed in that position.

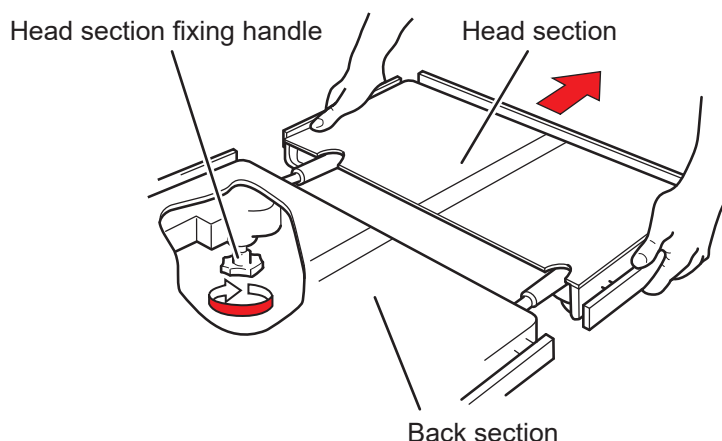
NOTE

When bending upward, the head section can be lifted and bent without pulling the head section flexing lever.



■ Detaching the head section

1. Loosen the two head section fixing handles located on the lower side of the back section or the Single Leg Section (Fig. shows the back section).
2. Hold both sides of the head section firmly and pull straight.



■ Attaching the head section



Make sure to tighten the head section fixing handles securely. If the head section moves with the handles in a loosened state, the patient may get injured.

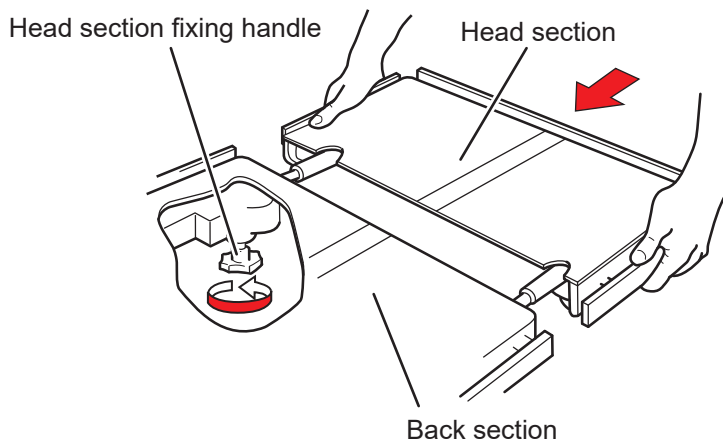


- Make sure to insert the head section into the back section or the single leg section completely. If the operating table is used with the head section inserted incompletely, it may get damaged.
- Do not move the operating table by pulling on the head section. It may drop and cause damage or injury.

- 1. Hold both sides of the head section and align the head section insertion shafts with the back section/Single Leg Section reception hole and insert.**
- 2. After checking that the head section is completely inserted, tighten the two head section fixing handles located on the lower side of the back section or the Single Leg Section to fix it (Fig. shows the back section).**

NOTE

The head section can be attached to the back section and the Single Leg Section. When attaching to the Single Leg Section, tighten the two head section fixing handles on the back side of the Single Leg Section to fix the head section.



6.15 Attaching/detaching the back section

The back section can be detached.



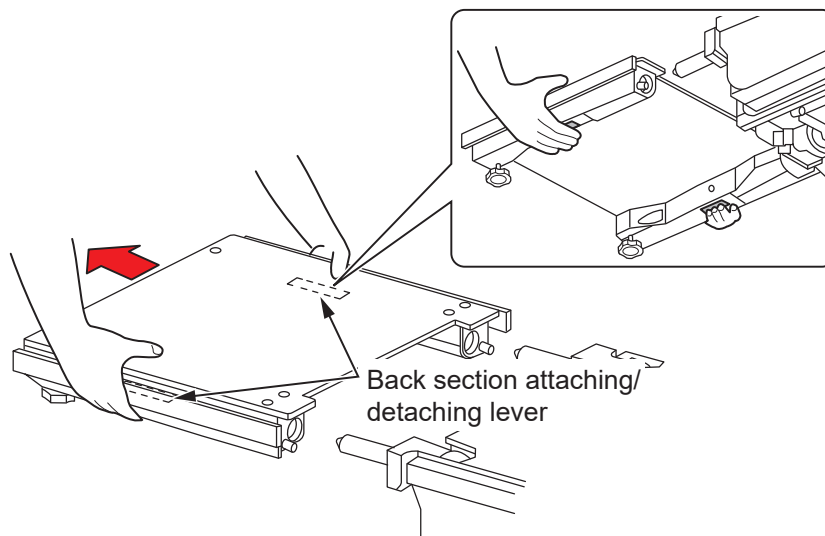
The back section weighs 8 kg (17.6 lbs). Pay special attention when handling it. It may drop and cause damage or injury.

■ Detaching the back section



Do not detach the back section while the head section is inserted into it. If the back section with the head section inserted is detached, it may drop and cause injury.

- 1. Pull up the back section attaching/detaching levers on both sides of the lower side of the back section at the same time.**
- 2. While still pulling up the back section attaching/detaching levers, hold the back section firmly and pull straight.**



■ Attaching the back section

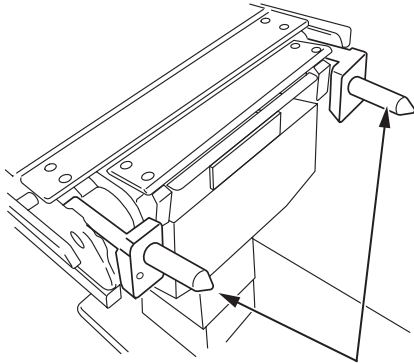


Make sure that the back section is inserted completely. If the operating table is used without the back section being completely inserted into it, the patient may get injured by the back section being moved.

NOTE

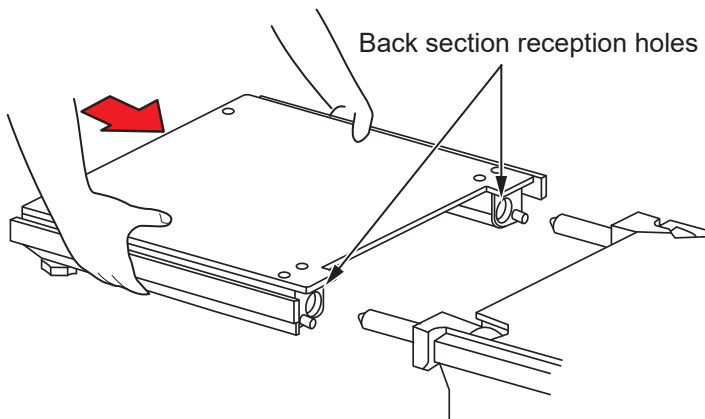
You can install the optional dedicated accessories to the back section insertion shafts. For details, refer to the instruction manual of the accessories.

1. Check that the right and left positions of the back section insertion shafts are not misaligned.



Back section insertion shafts

2. Hold the back section firmly and align the back section reception holes with the insertion shafts, and insert.



3. Pull the back section, and make sure that the back section is inserted completely.

NOTE

- If the back section is operated with it detached, the back section insertion shaft's right and left positions are misaligned, with the result that the back section cannot be attached. If the back section insertion shaft's right and left positions are misaligned, attach the back section according to the procedures that are described on the next page.
- If the back section does not feel right when it is attached, the back section insertion shaft's right and left positions might be misaligned. If it is forcibly attached, then that may cause it to be faultily installed or get damaged. Attach the back section according to the procedures that are described on the next page.

■ Attaching the back section

If the back section insertion shaft's right and left positions are misaligned, attach the back section according to the following procedures.

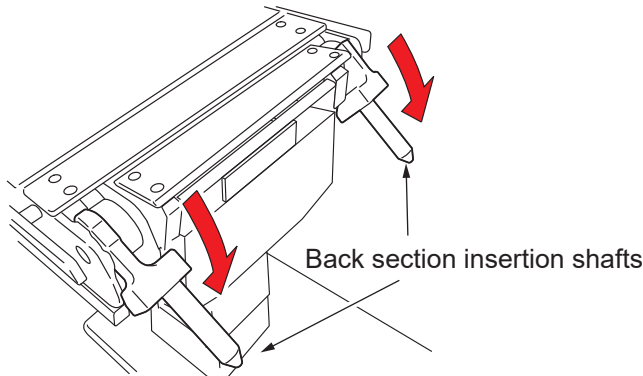


Make sure that the back section is inserted completely. If the operating table is used without the back section being completely inserted into it, the patient may get injured by the back section being moved.

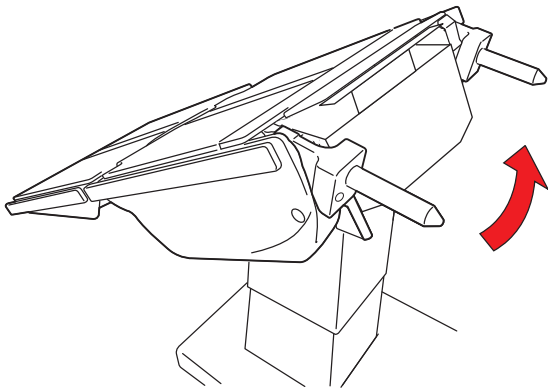
NOTE

You can install the optional dedicated accessories to the back section insertion shafts. For details, refer to the instruction manual of the accessories.

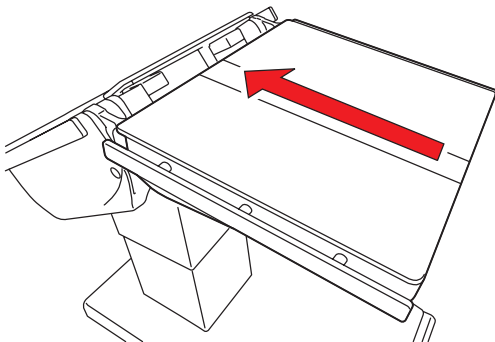
1. Press  first and then  on the hand controller until the back section insertion shafts stop.



2. Press  first and then  on the hand controller until the tabletop stops.



3. Insert the back section into the back section insertion shafts.



4. Pull the back section, and make sure that the back section is inserted completely.

6.16 Adjusting the Double Leg Section (optional)

The Double Leg Section can be outward stretched and detached.



The Double Leg Section weighs 8.5 kg (19 lbs)(each). Pay special attention when handling it.
It may drop and cause damage or injury.

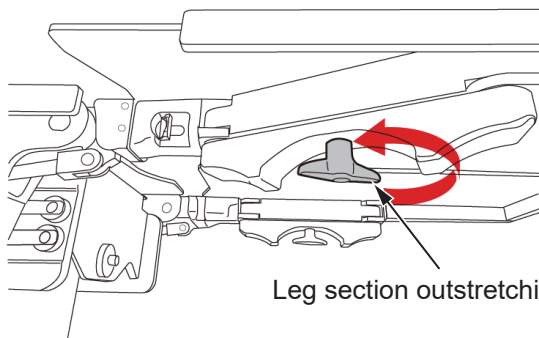
■ Outstretching the leg section

The leg section of the Double Leg Section can be stretched outward by up to 42° (center of the first or second joint).



- Keep your fingers away from the operating domain while outstretching the leg section. Otherwise you may get injured.
- Make sure to tighten the leg section outstretching handle securely. If the leg section moves with the handle in a loosened state, the patient may get injured.

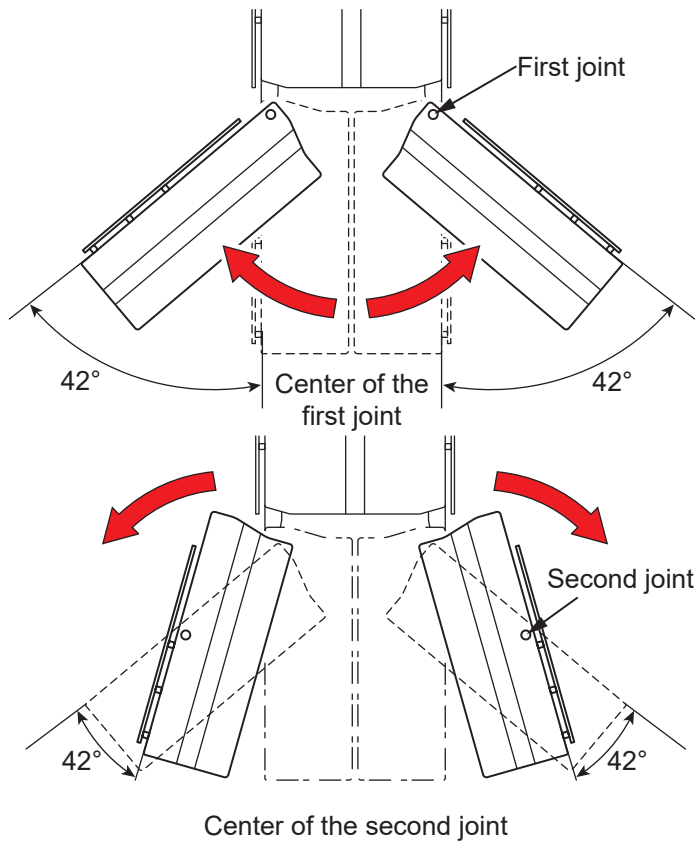
- 1. Hold the tip of the leg section and turn the leg section outstretching handle located on the lower side of the leg section in the direction of the arrow, and unfix the leg section.**



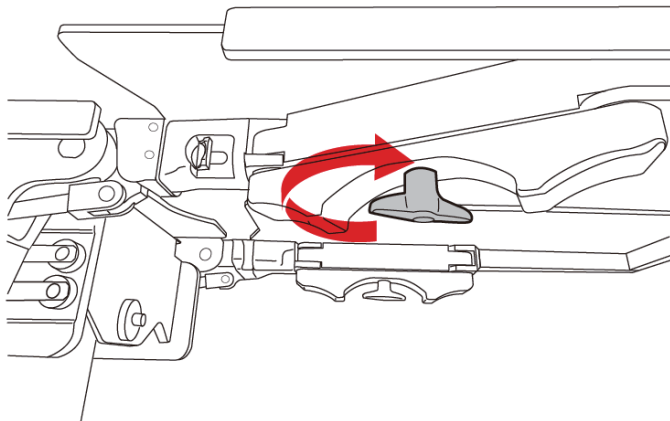
NOTE

The handgrip can be changed to any direction by turning the leg section outstretching handle while pulling it downward.

2. Move the leg sections manually to a desired position.

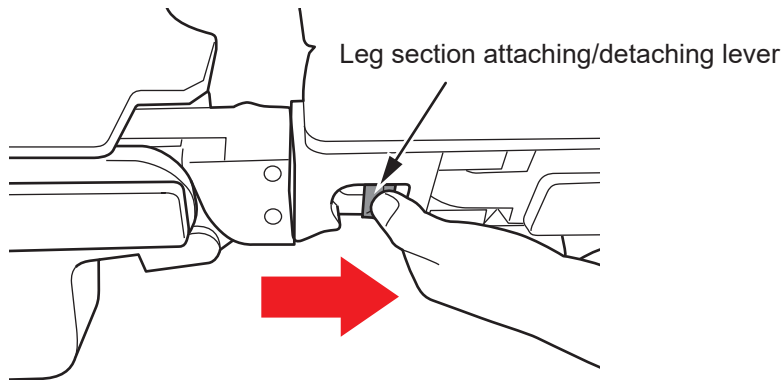


3. Turn the leg section outstretching handle located on the lower side of the leg section in the direction of the arrow, and fix the leg section.



■ Detaching the leg section

1. Hold the leg section firmly and pull the leg section out with pulling the leg section attaching/detaching lever.



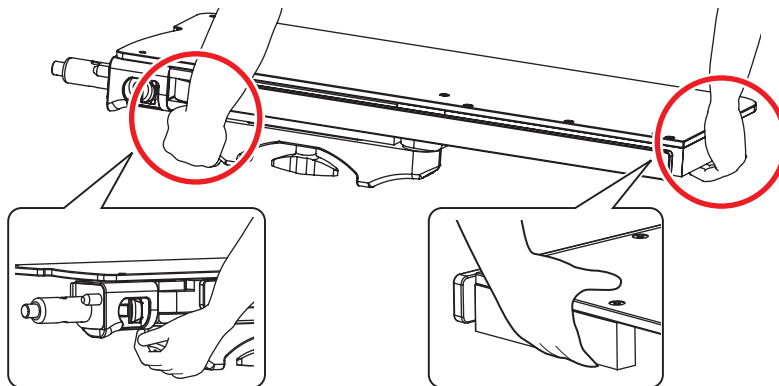
■ Attaching the leg section



After attaching the leg section, check that the leg section is inserted completely by shaking the leg section back and forth. If the operating table is used without the leg section being completely inserted into it, the patient may get injured by the leg section being moved.

1. Hold the leg section firmly with both hands.

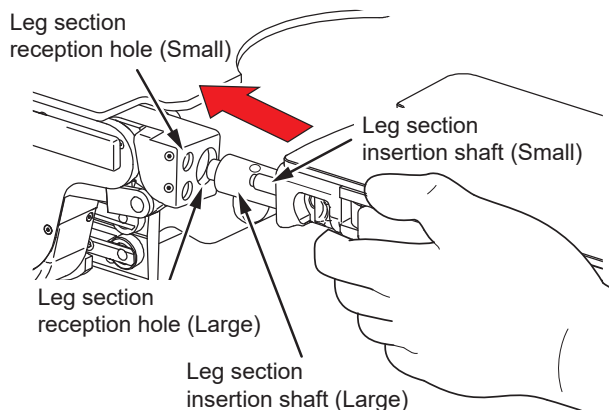
Hold the inclined plane of the leg section with the insertion shaft side hand, and hold the frame end of the leg section with the opposite side hand.



Inclined plane of the leg section

Frame end of the leg section

2. Position the leg section body horizontally and align the leg section insertion shafts (large and small) with each leg section reception holes (large and small), and insert.



6.17 Attaching/Detaching the Single Leg Section (optional)

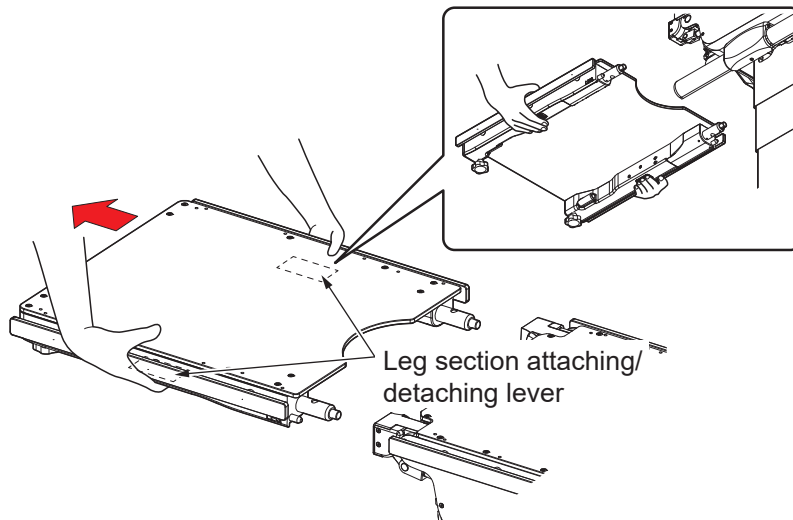
The Single Leg Section can be detached.



The Single Leg Section weighs 10 kg (22 lbs). Pay special attention when handling it. It may drop and cause damage or injury.

■ Detaching the leg section

1. Pull up the leg section attaching/detaching levers on both sides of the lower side of the leg section at the same time.
2. While still pulling up the leg section attaching/detaching levers, hold the leg section firmly and pull straight.



■ Attaching the leg section

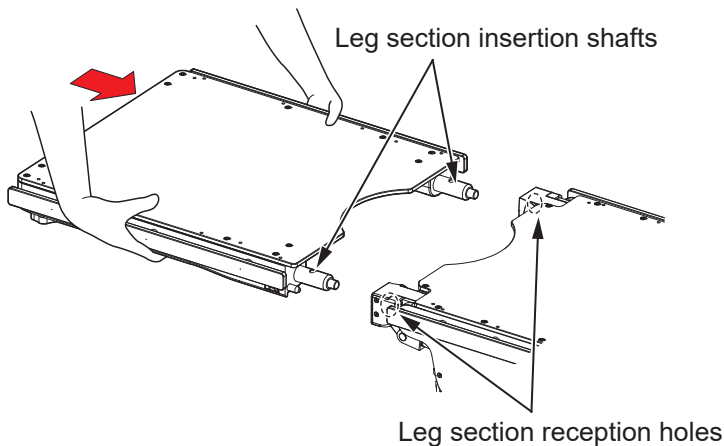


Make sure that the leg section is inserted completely. If the operating table is used without the leg section being completely inserted into it, the patient may get injured by the leg section being moved.

NOTE

You can install the optional dedicated accessories to the leg section insertion holes. For details, refer to the instruction manual of the accessories.

1. Check that the right and left positions of the leg section insertion shafts are not misaligned.
2. Hold both sides of the leg section firmly and align the leg section insertion shafts with the leg section reception holes, and insert.



3. Pull the leg section, and make sure that the leg section is inserted completely.

NOTE

- If the leg section is operated with it detached, the leg section reception hole's right and left positions are misaligned, with the result that the leg section cannot be attached. If the leg section reception hole's right and left positions are misaligned, perform the leg section up/down (Page 48) or return to level (Page 52) operation to set the leg section insertion holes to the level position.
- If the leg section does not feel right when it is attached, the leg section reception hole's right and left positions might be misaligned. If it is forcibly attached, then that may cause it to be faultily installed or get damaged. Perform the leg section up/down (Page 48) or return to level (Page 52) operation to set the leg section insertion holes to the level position, then attach the leg section.

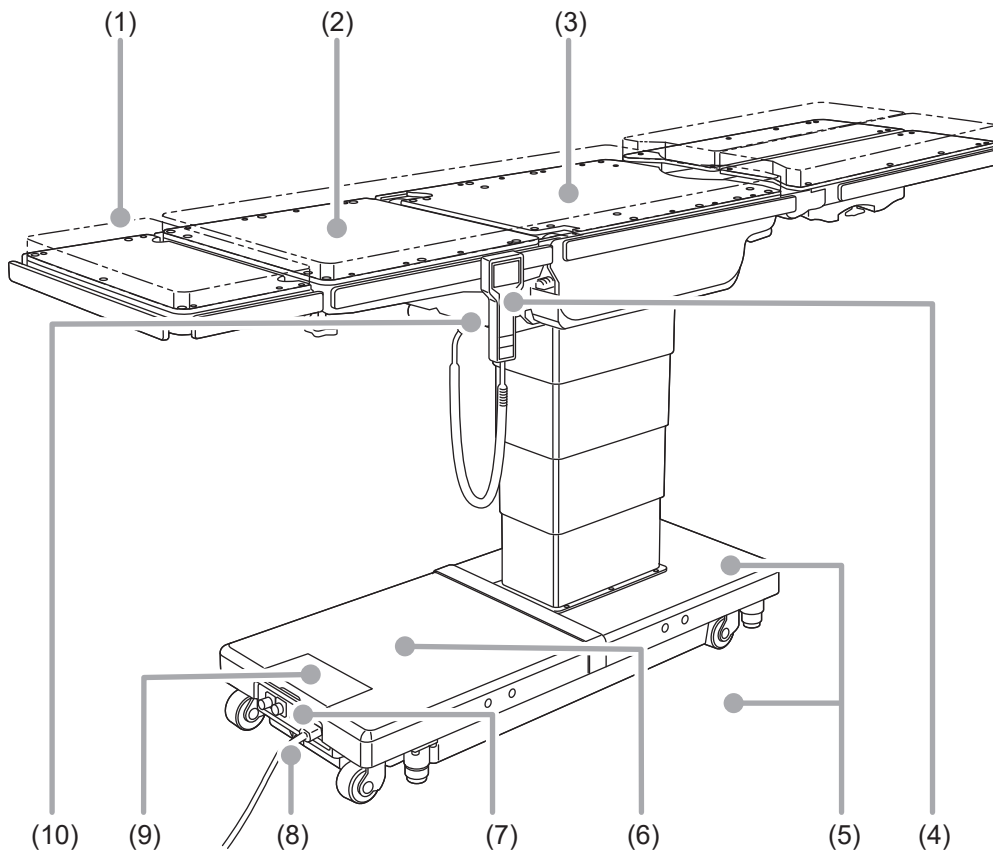
7. Maintenance and inspection

7.1 Inspection before and after use



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 pads

● Before use

- Check all the table pads for any damage.

● After use

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

(2) Backlash of the tabletop

● Before use

- Check all the tabletops for any backlash when jiggling both sides of the back section.

(3) Tabletops

● Before use

- Check all the tabletops for any damage.

● After use

- Check all the tabletops for any damage or dirt.

(4) Hand controller

● Before use

- Press the power ON switch on the hand controller to see if the PILOT lamp on the hand controller lights up.
- Press the switches on the hand controller 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) Battery

● Before use

- Check if the battery has been charged.

(7) Power switch

● Before use

- Turn on the power switch to see if the LED lamp of the power switch lights up.

(8) Power cord and plug

● Before use

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

(9) Touch screen

● Before use

- Press the switches on the touch screen to see if all functions are working properly.

(10) Emergency stop switch

● Before use

- Check if the emergency stop switch is working properly.

7.2 Cleaning and disinfection



- 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.



- Make sure to use MIZUHO authorized disinfectants. Failure to do so may cause the operating table to become discolored or deformed.
- Do not use organic solvents such as paint thinner to wipe the display and the protective cover. They may get damaged. To wipe the display and the protective cover, use a natural detergent diluted with water.
- When cleaning the table pads, take care not to get liquids on the fasteners. If liquids get on the waterproof fasteners, wipe them off quickly. If the waterproof fastener gets wet and the liquids infiltrate inside, it may cause degradation.

■ Cleaning and disinfection procedures

1. Turn off the power and disconnect the power cord from the medical grade outlet.
2. Detach all the table pads 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 pads.
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 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.

7.3 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.

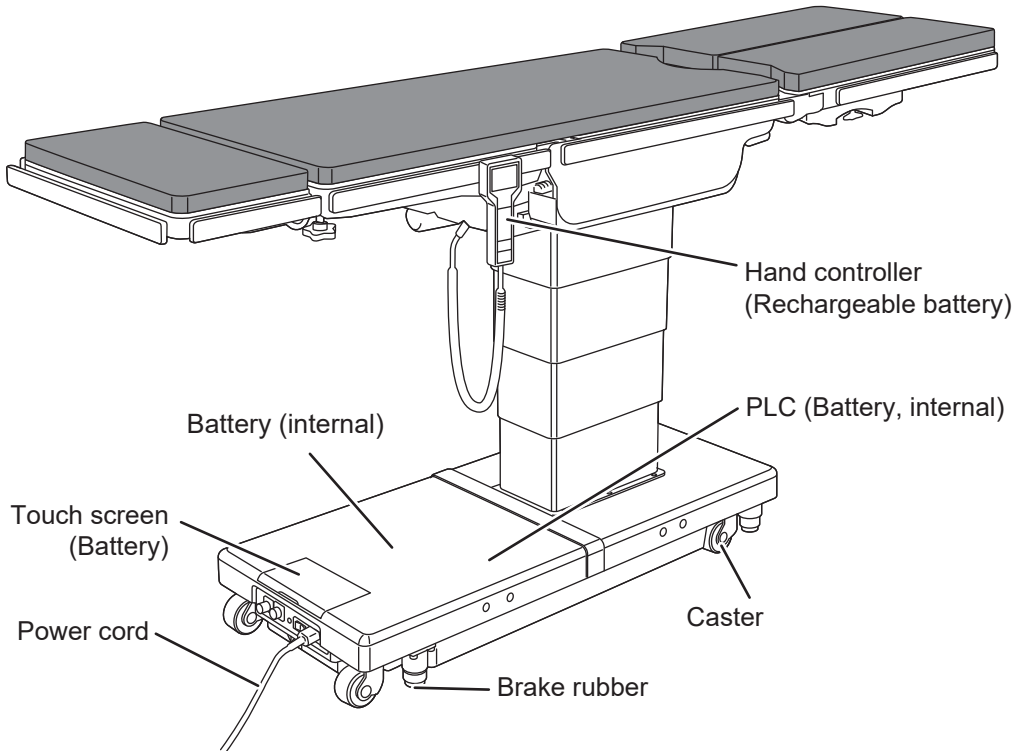
For request for the periodical inspection, contact your distributor or MIZUHO.

7.4 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	5
Hand controller	4 to 6
Caster	5 to 7
Brake rubber	3 to 5
Power cord	5 to 7
Rechargeable battery (Hand controller)	2 to 3
Battery (Touch screen)	5
Battery (PLC)	5

NOTE

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

7.5 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.



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.

7.6 LAN connector

■ Hardware specification

● Basic specification

10BASE-T/100BASE-TX

● Internal network

The external LAN connector are connected to the operating table main controller and the touch screen interface controller via the Ethernet hub in the operating table.

■ Functional specification

● Maintenance

The external LAN connector are used for acquiring maintenance information such as the operating table operation log.

● Connection with external systems

The operating table does not support connections with any general external devices or systems. Connections with devices or systems other than those allowed by MIZUHO are not guaranteed to work. When you desire to connect with external devices or network, please contact your distributor or MIZUHO.

● Default IP settings

Operating table main controller

- IP address: 192.168.3.250
- Subnet mask: 255.255.255.0

Touch screen interface controller

- IP address: 192.168.3.1
- Subnet mask: 255.255.255.0

■ Bluetooth specification

● Basic specification

Bluetooth, version v4.1

■ Functional specification

● Wireless connection with the hand controller

Wireless communication via Bluetooth is used for data communication between the operating table and the hand controller. Connection with general Bluetooth devices is out of support.



If the wireless communication is set to the Bluetooth mode, the data communication between the operating table and the hand controller turns to the wireless communication via Bluetooth.

Do not use this function if your facility's rule bans wireless communication.

Also, do not use the wireless communication via Bluetooth in the case that medical devices used together could be affected with radio wave. Using the wireless communication via Bluetooth could affect other medical devices, such as radio wave interference.

8. Specification

8.1 Specification table

Product description		MOT-VS700UI	MOT-VS700UKI	
Electromotive functions	Elevation range	Highest	1000 mm (39.37 in) ± 10 mm (0.39 in)	
		Lowest	520 mm (20.47 in) ± 10 mm (0.39 in)	
	Trendelenburg angle	Head up	30° ± 2°	
		Head down	40° ± 2°	
	Lateral tilt angle	Left down	35° ± 2°	
		Right down	35° ± 2°	
	Back section up/down angle	Up	90° ± 2°	
		Down	40° ± 2°	
	Sliding: Note 1	Head direction	250 mm (9.84 in) ± 10 mm (0.39 in)	
		Foot direction	415 mm (16.34 in) ± 10 mm (0.39 in)	
	Leg section up/down angle	Up	25° ± 2°	
		Down	90° ± 5°	
	Flexing		Flexing / Reflexing	
	Kidney bridge	Highest	—	150 mm (5.91 in) ± 2 mm (0.08 in)
	Return to level		Trendelenburg, Lateral tilt, Back section up/down, Leg section up/down, Flexing, Beach chair	Trendelenburg, Lateral tilt, Back section up/down, Leg section up/down, Flexing, Beach chair, Kidney bridge
	Others		Beach chair / Lock / Unlock	
Control devices	Hand controller	Elevation, Trendelenburg, Lateral tilt, Back section up/down, Leg section up/down, Sliding, Flexing, Beach chair, Return to level, Brake, E switch, Power ON/OFF, Reverse mode, Memory	Elevation, Trendelenburg, Lateral tilt, Back section up/down, Leg section up/down, Sliding, Flexing, Beach chair, Kidney bridge, Return to level, Brake, E switch, Power ON/OFF, Reverse mode, Memory	
	Touch screen	Elevation, Trendelenburg, Lateral tilt, Back section up/down, Leg section up/down, Sliding, Flexing, Beach chair, Return to level, Brake, Switching reverse mode, Memory, Level and center positions' temporary pause mode	Elevation, Trendelenburg, Lateral tilt, Back section up/down, Leg section up/down, Sliding, Flexing, Beach chair, Kidney bridge, Return to level, Brake, Switching reverse mode, Memory, Level and center positions' temporary pause mode	
	Foot switch: Note 2	Elevation, Trendelenburg, Lateral tilt		
	Emergency stop switch	Stop		
Manual functions	Head section up/down angle	Up	60°	
		Down	90°	
	Leg section outstretching angle (Double Leg Section only)		Center of the first joint :42° (Each for left and right) Center of the second joint :42° (Each for left and right)	
	Detachment		Head section / Back section / Double Leg Section (left/right): Note 2/ Single Leg Section: Note2	
Others		Emergency brake release knob		

Rating	Classification as per 60601-1	Class I Equipment / Type B Applied Parts / IPX4 Rated (internal power source device : Note 3)	
	Supply voltage	AC 100 - 240 V	
	Rated supply frequency	50/60 Hz	
	Battery power	DC 24V	
	Battery charging time	Up to 10 hours (cumulative operation time when fully charged: up to 60 min. : Note 13)	
	Power consumption	600 VA	
	Operating voltage	DC 24 V	
	Duty cycle (per 1 cycle)	3 min on, 7 min off: Note 4	
Others	Recovery from defibrillator is within 5 seconds. Conformity to EMC Standard IEC 60601-1-2: 2020		
Dimension	Tabletop:Note5	Main unit: 1441 mm (56.73 in) (L) x 500 mm (19.69 in) (W) With Double Leg Section: 2124 mm (83.62 in) (L) x 500 mm (19.69 in) (W) With Single Leg Section: 2005 mm (78.94 in) (L) x 500 mm (19.69 in) (W)	
	Base	1134 mm (44.65 in) (L) x 483 mm (19.02 in) (W) : Note 6	
Weight	Main unit	373 kg (820 lbs)	383 kg (840 lbs)
	With Double Leg Section	390 kg (860 lbs)	400 kg (880 lbs)
	With Single Leg Section	383 kg (840 lbs)	393 kg (870 lbs)
Transitable height and width		Height: 10 mm (0.39 in) / Width: 80 mm (3.15 in)	
Weight capacity: Note 10		Elevation: 450 kg (1000 lbs) / Operations other than elevation: 360 kg (800 lbs) / Reverse mode: 135 kg (300 lbs)	
Table pad		Anti-defibrillation device	
		Flame resistance: BS 7177 Fire Test on Mattresses, Sofas and Bases Classification: Conforms to BS 7177:2008 for medium hazard (Medium Hazard [5])	
		Manufacturing method via waterproofing: Welder processing: Note 11 Waterproof fasteners: Note 12	
Operating environment	Temperature	10 to 40°C (50 to 104°F) : Note 9	
	Humidity	30 to 75% : Note 9	
	Atmospheric pressure	700 to 1060 hPa : Note 9	
	Others	Allowable altitude for use is 3000 m or lower. : Note 9	
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: From the center position (where the side frame and the slide cylinder's line are aligned)

Note 3: When the battery power is used

Note 5: Excluding the side rail

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

Note 9: IEC 60601-1: 2020, Medical electrical equipment - Part1: General requirements for basic safety and essential performance

Note 11: Process that seamlessly welds via heat

Note 13: Depending on the usage conditions

Note 2: Optional

Note 4: Operating tables operating possible time and halting time per 1 cycle

Note 6: Rough dimension

Note 8: Based on MIZUHO's own validation data

Note 10: Total of the patient and accessories

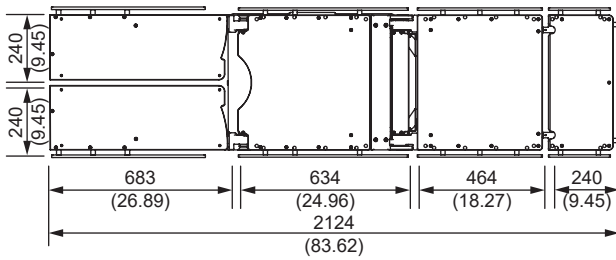
Note 12: Fastener with high waterproofness

8.2 External view

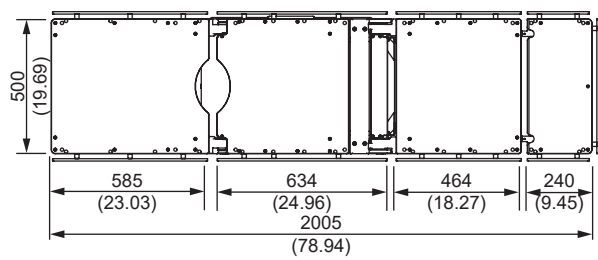
MOT-VS700UKij

Unit : mm (in)

With Double Leg Section

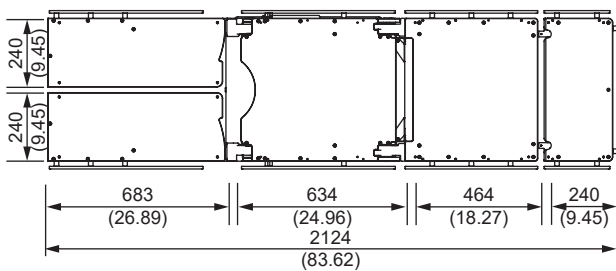


With Single Leg Section

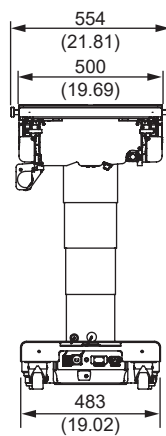
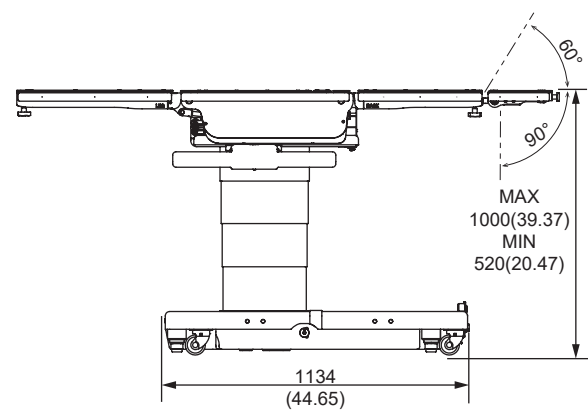
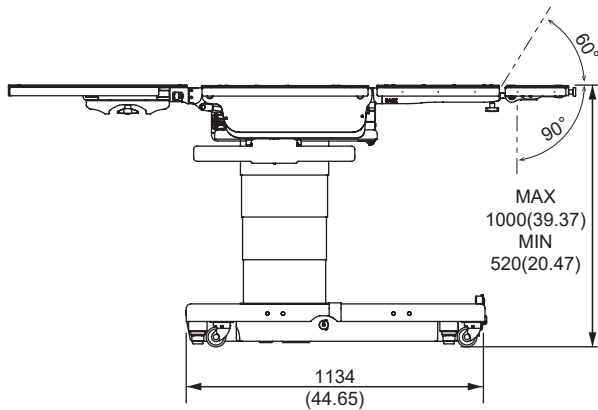
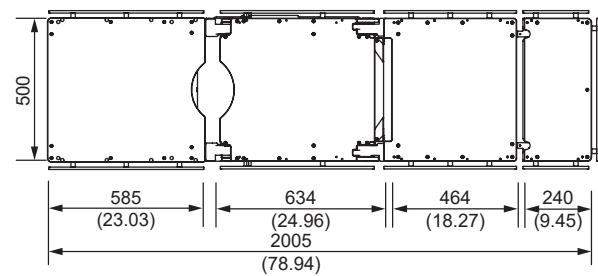


MOT-VS700Uij

With Double Leg Section



With Single Leg Section



9. Troubleshooting

9.1 When the hand controller cannot be used

■ Use the touch screen to operate the operating table

When the hand controller cannot be used because it is broken, etc., the operating table can be operated with the BACK-UP CONTROLS screen on the touch screen.

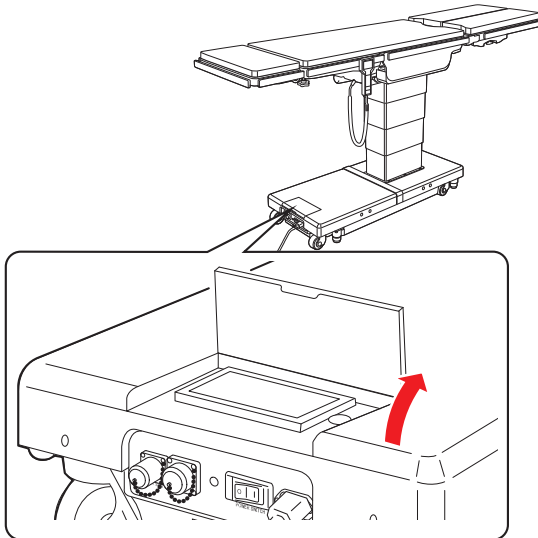


- Only use the BACK-UP CONTROLS on the touch screen in an emergency.
- Always watch movement of the operating table when you operate the touch screen. The touch screen has no operational restrictions and may come in contact with other parts.
- If any parts come in contact with each other, immediately stop the operation. Otherwise, the operating table may get damaged.

NOTE

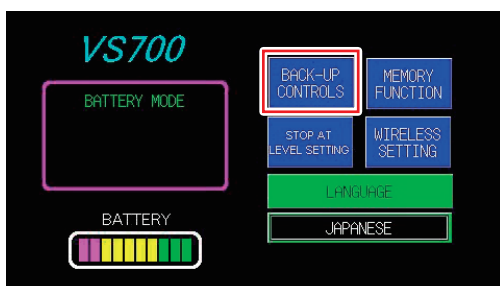
When operating the BACK-UP CONTROLS, the “Table Collision” warning is not displayed on the touch screen.

1. Open the protective cover of the touch screen.



2 Show the “TOP PAGE” screen of the touch screen.

3. Tap “BACK-UP CONTROLS”.



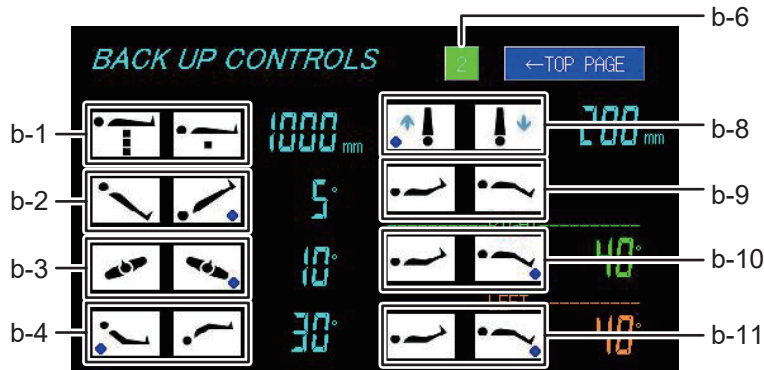
NOTE

For the procedure to show the “TOP PAGE” screen of the touch screen, refer to Page 16.

The “BACK-UP CONTROLS” screen appears.

4. Tap the switch in the direction that you want to move it in.

● BACK-UP CONTROLS screen (1/2)



NOTE

- The operating table moves while the touch screen is being pressed.
- The operating table stops once the maximum angle is achieved at each operation.
- When using the touch screen, the operating table does not pause at the memory recording positions, level position, or center point position.

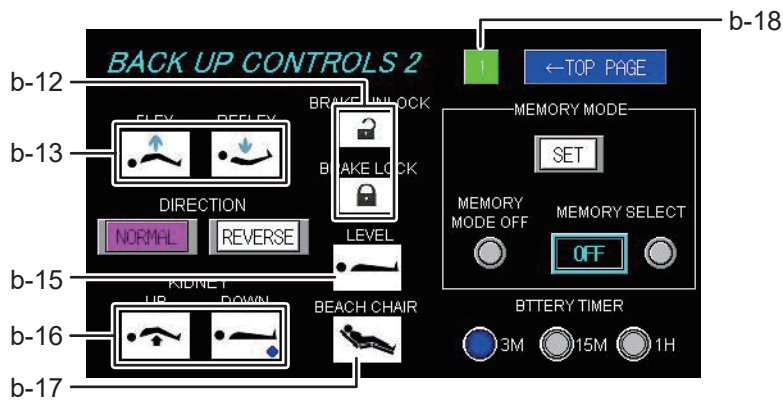
No.	Name	No.	Name
b-1	Elevation (Up/Down)	b-6	Page
b-2	Trendelenburg (Head up/Head down)	b-8	Slide (Foot/Head)
b-3	Lateral tilt (Left down/Right down) *1	b-9	Leg section (Up/Down) *2
b-4	Back section (Up/Down)	b-10	Right leg section (Up/Down) *3
		b-11	Left leg section (Up/Down) *3

*1: In the view from the head

*2: Single Leg Section or simultaneous right and left Double Leg Section

*3: Display only when the Double Leg Section is attached

● BACK-UP CONTROLS screen (2/2)



No.	Name	No.	Name
b-12	Brake (Unlock/Lock)	b-18	Page
b-13	Flex/Reflex		
b-15	Return to level		
b-16	Kidney bridge (Up/Down) *4		
b-17	Beach chair		

*4: MOT-VS700UKI only

9.2 When the brake cannot be released



- 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 via operating the touch screen when the emergency brake release knob is in the “UNLOCK” state. The operating table may tip over resulting in injury.



After turning the emergency brake release knob in the UNLOCK direction, make sure to return it in the LOCK direction.

If it is not returned, the operating table cannot be operated via the hand controller.

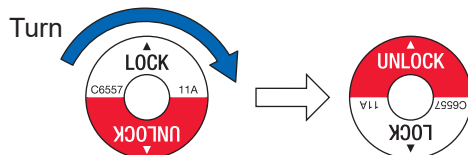
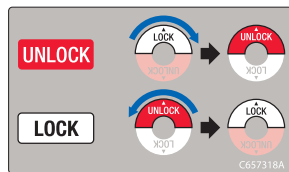
■ Brake release with the emergency brake release knob

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).

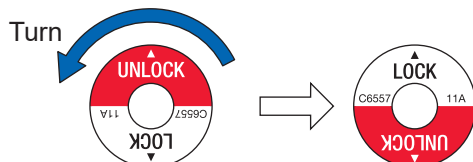
The brake will be released.



■ Refixing the operating table

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

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



2. Press first and then on the hand controller.

The operating table will be fixed.

9.3 In case where any error/warning appeared

If any error/warning message appeared on the touch screen and the display monitor, follow the description below to take an appropriate action.

■ Errors/warnings displayed on the touch screen and display monitor

Message	Possible causes and measures
01. Solenoid Overheated	The valve's thermal switch is activated. Wait about 30 minutes before use.
02. Table Collision (Head or back section)	The head section or the back section is about to contact with the operating table or the floor.
03. Table Collision (Seat section)	The seat section is about to contact with the operating table.
04. Table Collision (Leg section)	The leg section is about to contact with the operating table or the floor.
05. Pump Motor Failure	The pump motor has broken down. Request repairs from your distributor or MIZUHO.
06. Power Supply Failure	The AC power has broken down. Request repairs from your distributor or MIZUHO.
07. Internal Fuse Blown	The fuse has blown out. Request repairs from your distributor or MIZUHO.
08. Emergency Stop Switch Activated	The emergency stop switch is pressed. Before resetting the emergency switch, ensure the safety of the patient and staff members.
09. Battery Critically Low	The battery is out of charge. Charge the battery before use.
10. Table Brake Pressure Error	The operating table cannot be locked. Check that the emergency brake release knob is at the "LOCK" position.
11. Communication Error	The hand controller is out of communication. Use the touch screen or the infrared remote controller.
13. Control Board Error	The control board has any abnormality. Request repairs from your distributor or MIZUHO.
14. Sensor Board Error	The sensor board has any abnormality. Request repairs from your distributor or MIZUHO.
16. Hydraulic Pump Overheated	The thermal switch of the pump motor is on. Wait about 30 minutes before use.
17. Control Board Output Voltage Loss	The control board has any abnormality. Request repairs from your distributor or MIZUHO.
18. IR Code Error	Correct the code No. by using the touch screen.
21. Incorrect Signal Received from Pendant Control or Foot Control	The operating table cannot be operated with the hand controller or the foot switch. Use the touch screen or the infrared remote controller.
22. Battery Low	The battery level is low. Charge the battery.
24. Sensor Error (Elevation)	The sensor for table up and table down has any abnormality. Request repairs from your distributor or MIZUHO.
25. Sensor Error (Tilt and Trend)	The sensor for Trendelenburg and lateral tilt has any abnormality. Request repairs from your distributor or MIZUHO.
27. Sensor Error (Back Section)	The sensor for the back section has any abnormality. Request repairs from your distributor or MIZUHO.

Message	Possible causes and measures
28. Sensor Error (Table Slide)	The sensor for sliding has any abnormality. Request repairs from your distributor or MIZUHO.
29. Sensor Error (Right Leg Axis)	The sensor for the right leg section has any abnormality. Request repairs from your distributor or MIZUHO.
30. Sensor Error (Left Leg Axis)	The sensor for the left leg section has any abnormality. Request repairs from your distributor or MIZUHO.
31. Pendant Control Disconnected	The hand controller is disconnected.
33. System Memory Disabled	Because the sensor function has any abnormality, the memory function cannot be used.
36. Unbalanced Table Load Detected	The operating table is at risk of tipping over.
37. Unbalanced Table Load Detected	The operating table is at significant risk of tipping over.
38. Table Stability Program Malfunction-Table Stability Program Disabled	The tipping over detection program has any abnormality. Request repairs from your distributor or MIZUHO.
39. Table Stability Output Malfunction-Table Stability Program Disabled	The tipping over detection program has any abnormality. Request repairs from your distributor or MIZUHO.
43. Table Collision (Slide Cylinder)	The slide cylinder is about to contact with the operating table.
46. Error Battery Communication	The battery is out of communication. Request repairs from your distributor or MIZUHO.
47. Infrared remote mode operation prohibition	In the reverse mode, the infrared mode is disabled.
48. Battery high temperature warning	Stop the operation immediately and request repairs from your distributor or MIZUHO.
49. "FLEX" operation prohibition	In the reverse mode, the flexing, reflexing, and beach chair operations are disabled.

■ Error/warning only for the display monitor

Monitor	Possible causes and measures
Panel Err.	The operating table cannot communicate with the touch screen. Request repairs from your distributor or MIZUHO.

10. 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 23)
	The battery is fully discharged.	Charge the battery. (→ Page 30)
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 23)
	You did not press the E switch before the function switch.	Press E switch first and then the function switch. (→ Page 42 - Page 52, Page 61)
	Motor may be overheated.	Wait for about 30 minutes to operate. (→ Page 78)
The operating table cannot be fixed.	The emergency brake release knob is in "UNLOCK" position.	Turn the emergency brake release knob toward "LOCK." (→ Page 77)
The back section cannot be bent down below the level position.	The tabletop is slid in the foot direction beyond the center position.	Slide the tabletop center point in the head direction beyond the center position. (→ Page 47)
The tabletop cannot be slid in the foot direction beyond the center position.	The back section is bent down below the level position.	Move up the back section from the level position. (→ Page 45)
The flexing cannot be operated.	The tabletop is slid in the foot direction beyond the center position.	Slide the tabletop center point in the head direction beyond the center position. (→ Page 47)
The leg section cannot be bent down the level position.	The tabletop is in the possible interference area of the leg section.	Slide the tabletop toward the foot direction. (→ Page 47)
The back section's right and left heights are misaligned.	The back section insertion shaft's right and left positions are misaligned.	1. After moving the back section up to the maximum angle, move the back section down to the maximum angle. 2. Perform the return to level operation. (→ Page 45, Page 52)
The leg section's right and left heights are misaligned.	The leg section reception hole's right and left positions are misaligned.	1. After moving the leg section up to the maximum angle, move the leg section down to the maximum angle. 2. Perform the return to level operation. (→ Page 48, Page 52)
The brake lamp does not turn green when the operating table is fixed.	The brake detection sensor's response is delayed in low temperatures.	Repeat the brake fixing operation. (→ Page 42)

Status	Possible cause	Measures
The hand controller cannot be operated wirelessly.	The rechargeable battery of the hand controller is completely discharged.	Connect the hand controller to the operating table and charge it. (→ Page 25)
	The switching processes between the infrared mode and BT mode have timed out.	After switching to the BT mode from the WIRELESS SETTING screen on the touch screen while using the battery power, press and hold the force shutdown switch for 3 seconds or more to forcibly shut down the operating table. (→ Page 35)
	The Bluetooth module on the operating table side is not in a connectable state.	
The special error screen is displayed on the touch screen. (→ Page 20)	Touch screen communications error Touch screen memory error	Turn off the power, and repower it on. (→ Page 26)
Nothing is displayed on the touch screen even when the power is turned on.		If the special error screen is still displayed, or nothing is displayed on the touch screen, contact your distributor or MIZUHO for repairs.

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

■ In case of malfunction



- 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.



- 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 MOT-VS700UI/MOT-VS700UKI is intended for use in the electromagnetic environment specified below. The customer or user of the MOT-VS700UI/MOT-VS700UKI 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 MOT-VS700UI/MOT-VS700UKI 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 MOT-VS700UI/MOT-VS700UKI 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 MOT-VS700UI/MOT-VS700UKI is intended for use in the electromagnetic environment specified below. The customer or user of the MOT-VS700UI/MOT-VS700UKI 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 MOT-VS700UI/MOT-VS700UKI need to continue operation during a main power interruption, it is recommended that the MOT-VS700UI/MOT-VS700UKI 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.			

Guidelines and manufacturer declaration – electromagnetic interference immunity (continuation)

<p>Conducted disturbances induced by radiated RF IEC 61000-4-6</p>	<p>150 kHz to 80 MHz 3 V</p> <p>ISM frequencies 6 V</p>	<p>150 kHz to 80 MHz 3 V</p> <p>ISM frequencies 6 V</p>	<p>Portable and mobile RF communications equipment (radio devices, incl. antennas or cables) should be used no closer to any part of the MOT-VS700UI/MOT-VS700UKI than the recommended safety distance of 300 mm (12 in).</p> <p>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.</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 																																																															
<p>Interference due to radiated RF IEC 61000-4-3</p>	<p>80 MHz to 2.7 GHz 3 V/m</p> <p>Wireless communication frequency band</p> <table border="1" data-bbox="454 593 654 1198"> <thead> <tr> <th>V/m</th> <th>MHz</th> </tr> </thead> <tbody> <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> </tbody> </table>	V/m		MHz	27	385	28	450	9	710	9	745	9	780	28	810	28	870	28	930	28	1720	28	1845	28	1970	28	2450	9	5240	9	5500	9	5785	<p>80 MHz to 2.7 GHz 3 V/m</p> <p>Wireless communication frequency band</p> <table border="1" data-bbox="742 593 941 1198"> <thead> <tr> <th>V/m</th> <th>MHz</th> </tr> </thead> <tbody> <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> </tbody> </table>	V/m	MHz	27	385	28	450	9	710	9	745	9	780	28	810	28	870	28	930	28	1720	28	1845	28	1970	28	2450	9	5240	9	5500	9
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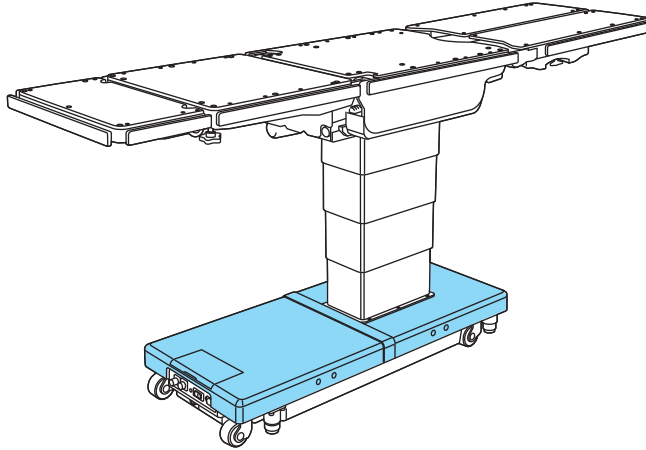
Info: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from buildings, objects and people.

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 MOT-VS700UI/MOT-VS700UKI is used, the MOT-VS700UI/MOT-VS700UKI should be observed to verify correct functionality. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the MOT-VS700UI/MOT-VS700UKI.

App.-2 Glossary

Base

The light-blue portion of the figure below.



Flex/Reflex

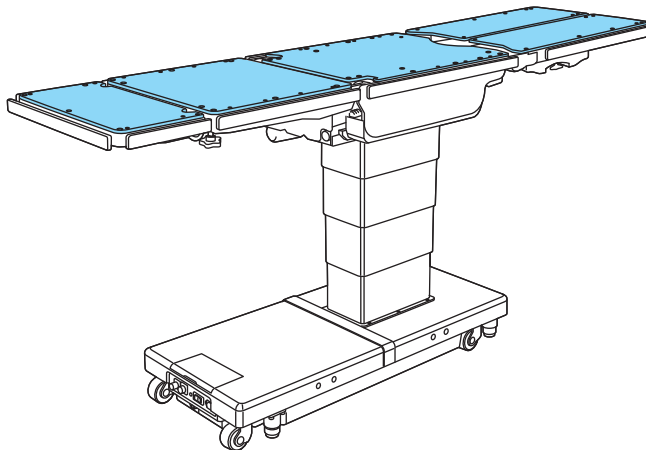
The back section is bent upward or downward, the seat section moves to the head-up or the head-down position, and the entire tabletop moves to the “Center up” or “Center down.”

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

2020-05-11	Ver.1	New release
2020-06-30	Ver.2	Revision
2020-11-05	Ver.3	Revision
2022-03-16	Ver.4	Revision
2023-07-14	Ver.5	Revision
2024-12-02	Ver.6	Revision



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