



» OPERATING TABLES VECTOR 5 «





Tekno-Medical Optik-Chirurgie GmbH

Sattlerstr. 11
78532 Tuttlingen
Germany

SRN: DE-MF-000005822

Phone: +49 (0) 7461 / 17 01 0

Mail: mail@tekno-medical.com

Web: www.tekno-medical.com



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All products manufactured by Tekno-Medical are devices designed and manufactured in accordance with the DIN EN ISO 13485 standard and bear the CE mark.

This instruction manual must be read carefully before using the operating table to familiarize yourself with its functions.

The system is equipped with electronic sensors that ensure active and safe use, and the indications of any residual hazards are included in this manual.

Compliance with current safety regulations guarantees the high quality of the product, its ease of use, a functional and practical structure and a long service life.

In order to optimize these functions, the device must be used in an appropriate and correct manner (as indicated in this manual); Any other use is considered false and abusive. The manufacturer is not liable for property damage or for damage and injury to persons caused by improper use or improper use of the operating table.

1 SCOPE OF APPLICATION



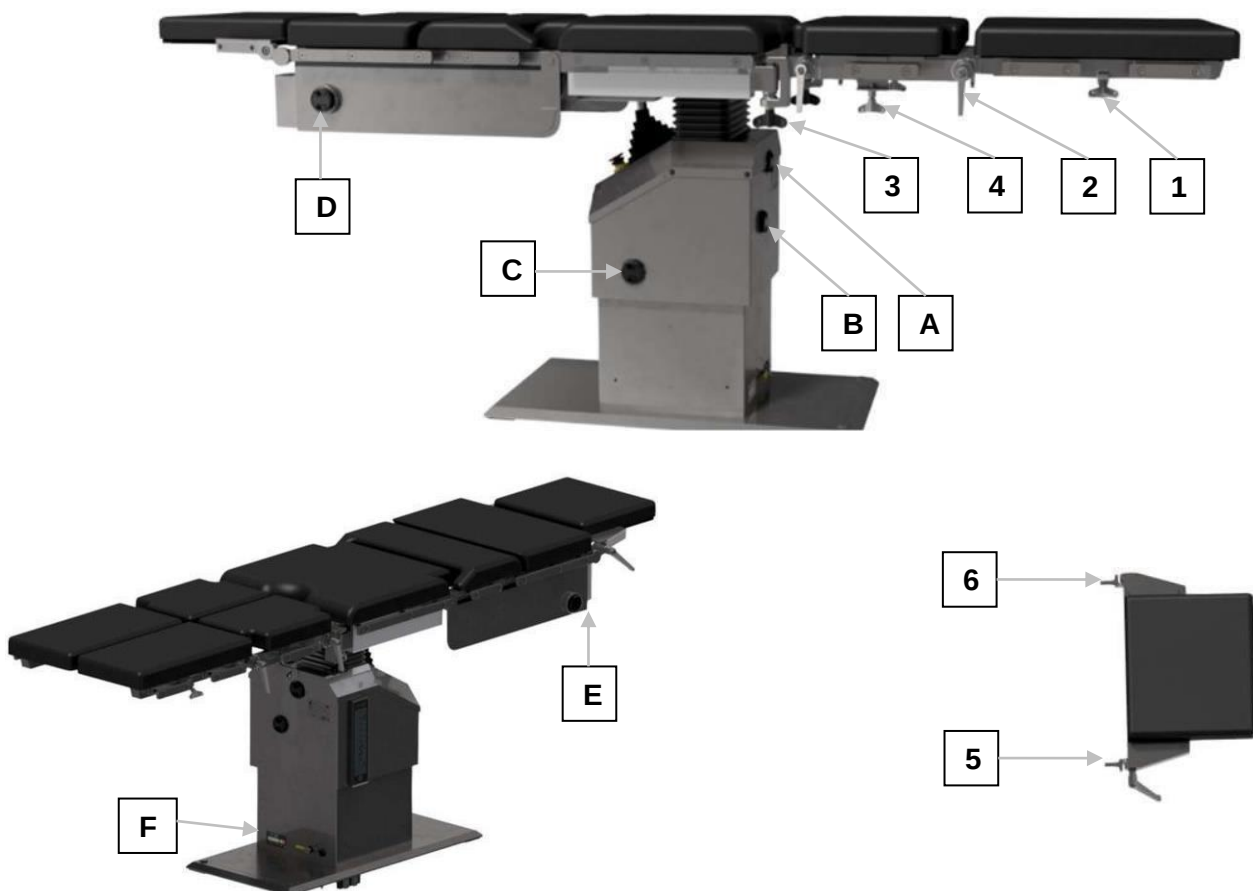
These instructions for use are valid for the following products:

- **VECTOR 5** operating tables and their accessories.
(See product list for instructions for use in the last paragraph.)

2 DESCRIPTION OF THE DEVICE

2.1 Overview

The VECTOR 5 operating tables are available in different configurations. The following are the main features of the operating tables:





Symbol	Significance
A	Lifting / lowering - emergency operation
B	Swivel left / right - emergency operation
C	Trendelenburg / Reverse-Trendelenburg - Emergency operation
D	Back Support - Emergency Operation
E	Thoracic Opening - Emergency Operation
F	Status display battery charge
1	Handle for lower leg section adjustment
2	Handle for upper leg section adjustment
3	Leg spread button
4	Lever for opening/closing the leg couplings
5	Lever for adjusting the head section
6	Button for fixing the head section

2.2 Classification according to DIN EN 60601-1

Electrical insulation class: electromedical equipment that is powered by an internal power source and can be connected to the power grid.

Meets the requirements of Class I EM equipment when connected to the mains via the external low-voltage power supply/charger.

Meets the requirements of EM equipment powered by an internal electrical source when not connected to the mains.

Degree of protection: IP X4.

Parts used: Type B

2.3 Product Documentation

The documentation of the operating table includes the following documents:

- the instructions for use,
- the Support and Maintenance Manual.

The instructions for use are supplied with the table and must be available to the user at all times.

The support and maintenance manual is provided upon request. It contains the description of the functions to provide technicians with the complete technical-functional know-how of the product.

3 LEGAL ASPECTS

This instruction manual and the information contained therein are the property of Tekno-Medical Optik-Chirurgie GmbH. The Company disclaims any responsibility for any damage to persons or property resulting from:

- negligence and failure to comply with due care and precautions,
- Deviations from the procedures described here,
- Work and activities performed on the operating table that are not described in this manual,
- lack of know-how regarding general safety precautions, lack of know-how regarding the improper use of electrically powered instruments.



4 HANDLING

The products may only be used for their intended use in medical specialties by appropriately trained and qualified personnel. The attending physician or user is responsible for the selection of the instruments for specific applications or surgical use, the appropriate training and information and sufficient experience for the handling of the products.

The operating table must be covered with sterile covering materials before use.

5 PURPOSE

Support of the patient in the different phases of the operation, such as preparation for surgery, administration of anesthesia, execution of the procedure and waking up of the patient from anesthesia after surgery.

6 CONTRAINDICATIONS

In principle, no contraindications for the use of the operating tables have been identified.

7 PATIENT POPULATION

The use of operating tables is indicated for all patients who have to undergo various diagnostic examinations or operations in the operating room.

With even weight distribution, the operating table is able to support patients up to 500 kg in static conditions and patients up to 250 kg in dynamic conditions.

8 INTENDED USERS

The use of the operating tables in actual use is reserved exclusively for trained specialists. Cleaning and maintenance may also only be carried out by trained specialists.

9 ENVIRONMENTAL CONDITIONS

The operating table must be used in an operating room that is large enough to accommodate the device and allow its movements.

The operational environment must also ensure that the following working conditions are met:

- Temperature from 10°C to 35°C
- Humidity from 30% to 70%

The operating table should be used in rooms with suitable smooth and antistatic flooring and with grounding connections.

10 FUNCTIONAL PRINCIPLE

Operating tables and their individual components and accessories are moved by mechanical gears or piston systems via electronic commands or manually.

The operating table can be moved into the following positions, among others:

- Trendelenburg / Reverse Trendelenburg.
- Lateral inclination.
- Lateral and longitudinal movement of the table top.
- Default horizontal position "0".

Trendelenburg and reverse Trendelenburg positions can be used during surgical procedures to reduce the risk of shock.

The tabletop and its individual components (segments) can be moved by the user to obtain a specific positioning of the patient.



11 REMARKS

11.1 General information

- Improper use of the operating table may result in damage, electric shock, or fire.
- Do not sit or lie down on parts of the table other than the positions described in the chapter Patient Positioning. Anyone sitting on the table could fall or get injured.
- Before lowering or tilting the table, check to see if there are any objects under the table. If the tabletop comes into contact with these objects and excessive force is applied, the table can be damaged.
- Do not place objects on the table that are not suitable for their intended use: the table may be damaged.

11.2 Power supply network

In order to avoid the risk of electric shock, this device must only be connected to a power supply with a protective connection (earthing).

11.3 Static Charge

Avoid the formation of electrostatic charges!

To avoid the danger, use the operating table with the following elements:

- suitable (antistatic) overlays,
- on smooth and antistatic floor coverings and/or connection to protective conductors (earthing).

11.4 Power cable

Do not place heavy objects on the power cord. Do not cross the power cord with devices on wheels. Do not force pull on the power cord. Do not position objects that prevent access to the socket. These could prevent the power cord from being disconnected.

11.5 Remote control

Do not forcefully pull the cables of the remote control and the included accessories.
Do not expose the remote control to violent shocks.

11.6 Installation

Do not place the operating table on uneven ground.

Do not place objects under the base of the column to lift the table. The table could tip over and cause injury to the patient or user.

11.7 Combination of movements

There is a risk of collision due to the activation of the driven movements of both the column and the operating table. Pay close attention to the different movements when they are activated.

Although the table is equipped with an anti-collision system, you should be careful when combining the Trendelenburg or Reverse Trendelenburg positions with other movements, as these combinations could still result in injury to the patient or operator or damage to the table or accessories.

11.8 Combination with other products**11.8.1 Combination with electromedical devices**

Before using with other devices, check that they meet the requirements of IEC 60601-1-2 for electromagnetic compatibility.

Electromagnetic interference from other electromedical devices can cause malfunctions. When performing the cardiopulmonary resuscitation (CPR) technique, bring the top of the table back to the "horizontal" position. An incorrect position of the body can make the patient's position unstable and lead to injury to the patient.



11.8.2 Combination with a C-arm

Refer to the accompanying documents or instruction manuals that come with the C-arm radiological device to understand in detail the potential impact of the device on the operating table. X-ray permeability may decrease due to the work surface.

Make sure that the C-arm X-ray machine does not come into contact with the table. Incorrect installation may hinder operation or cause a malfunction.

11.8.3 Combination with other devices or medical accessories

Before using any other equipment or accessory, carefully read the instruction manual of the device or accessory and make sure that the operating table will not be subjected to any negative effects.

Before installing accessories from a third-party supplier, please contact your dealer or our company.

Some accessories cannot be mounted!

For hygiene reasons, be sure to use sterilized wipes on the areas of this product that come into contact with the patient.

If you are using the operating table, make sure you check the positions of the other equipment. During operation, they can touch each other and be damaged.

11.9 Maintenance

Maintenance of the device must not be performed while the patient is on the table and must be performed by authorized personnel.

(See Chapter 22 for details on maintenance.)

11.10 Disassembly and modifications

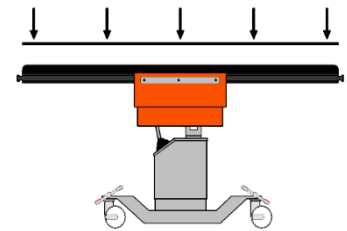
Do not attempt to disassemble or modify the table to avoid the risk of malfunction.

Do not modify this device without the permission of the manufacturer.

In the event of modification of the product, appropriate investigations and tests must be carried out to ensure continued safe use.

11.11 Carbon Models (CF)

There is a risk of tipping over if the patient is positioned incorrectly: To avoid this risk, arrange the patient so that the weight is distributed over as wide a table surface as possible.



Stability bars are available to prevent tipping (see Chapter 17.2).

12 FEATURES

The VECTOR 5 system can perform manual and powered movements.

The movements and settings are listed as follows:

- Trendelenburg / Reverse Trendelenburg,
- Lifting / lowering,
- Right/left movement to the side (tilt),
- Longitudinal movement of the table top,
- tilting the backrest,
- Thoracic opening,
- tilting of the headboard,
- Leg sections can be tilted and swivelled.



13 INSTALLATION

13.1 Delivery condition

Upon delivery, the operating table is ready for use.

The operating table with all accessories is delivered on a pallet with the following dimensions:

- Length: approx. 2000 mm;
- Width: approx. 500 mm;
- Height: approx. 850 mm;
- Weight: 250/300 kg; Variable depending on configuration and included accessories.

13.2 Cardboard boxes

Open the top of the box by removing the tape (be careful if you use a cutter as the pads could be damaged).

Remove all existing accessories. Detach the bottom of the box from the pallet and pull the box up;

13.3 Wooden boxes

Open the top of the box by removing the nails holding the cover. Remove all existing accessories.

Remove one or more sides of the box.

Remove all straps and fasteners that secure the operating table to the pallet.

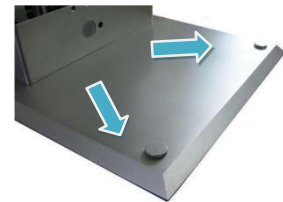
13.4 Antistatic adjustment system for the feet

For systems with an ultra-thin base, you can compensate for an uneven floor simply by adjusting the two pivot points placed above the base. To do this, follow the following procedure:

Stand on the side of the base where the foot compartment is located.



Unscrew the two caps that protect the screw feet.



With the help of the emergency crank, adjust the feet by screwing them in or out until the desired position is reached. Then screw on the cover caps again.



In case of resistance during adjustment, do not force the crank to rotate to avoid damaging the adjustment system or crank.

Depending on the direction of rotation of the crank, the adjustment of the feet changes:

- When turning clockwise, the screw foot moves downwards.
- Turning counterclockwise, the screw moves upwards.

14 APPLICATION

14.1 Connection to the mains

It is recommended to connect the power supply to the station first, and then connect the power supply to the mains. When you disconnect the power adapter, first unplug the power supply cable from the power outlet and then unplug the cable from the socket on the table column.



14.2 Turning the table on and off

The operating table must be connected to an equipotential bonding table via the socket at the base. To turn it on, simply pull up the emergency stop button, which is located in the upper part of the column.

To turn off the table, press the emergency stop button down.

Switching off must be done in the following cases:

- in surgical interventions,
- in the event of unusual or unintentional movements of the table,
- for immediate blocking of a function activated by errors.

After switching on, the system automatically performs a quick internal function check, at the end of which a short acoustic signal is emitted from the table and also from the remote control.

At this stage, all the LEDs present on the device and on the remote control will turn on.

The following automatic function checks are planned:

- Functional test of the power supplies.
- Functional test of the logic board.
- Communication test of the logic board with the motorboards.
- Communication test of the Logic board with the remote controls.
- Functional test of the potentiometers and the position sensors.



14.3 Battery charge status

The table is powered by two internal batteries.

Your charging status is displayed in the lower part of the operating table column.

The LED bar indicates the battery charge level: **25% 50% 75% 100%**

When the indicator is **at 25%**, the batteries should be charged.

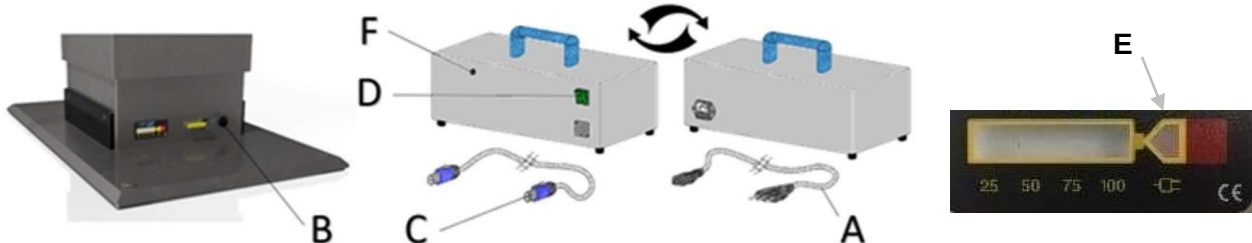
If the indicator flashes at **25%**, the batteries need to be charged as they could be damaged. For security reasons, there is **a software lock after the 25% flashing phase**.



14.4 Charging the batteries

Charging the batteries as follows:

- Connect the power supply to the power supply (cable A),
- Connect the column of the table to the power supply (plug cable C into socket B),
- Switch on the power switch (D) of the charger



When the charger is connected to the table, the orange indicator light (E) on the display at the bottom of the column lights up, indicating the correct connection to the charger. At the same time, the yellow LED (F) on the charger lights up to indicate the correct connection to the operating table.



To charge the batteries, use only the charger provided, as it is approved and complies with the regulations in force. The battery charger must not be exposed to liquid splashes.

Once the charging process is complete, it is advisable to close the socket B with the appropriate protective cap to avoid the ingress of liquids inside.





14.5 Device Security

Safety is always at the forefront of the development and subsequent manufacture of our products. The "security" aspect is divided into two categories, "passive" and "active" safety.

Passive Safety: Tekno-Medical refers to the relevant IEC standards as guidelines for reliability, efficiency and effectiveness of protective and safety measures.

Active Safety: Tekno-Medical refers to the software part of the system here.

The safety systems automatically prevent and correct operating errors.

Following these security principles, Tekno-Medical has implemented the following features:

- Automatic detection of the orientation and configuration of the patient's upper part, as well as the electromechanical movements of the surgical field, to make it easier for the operator to manage the surgical system in relation to the arrangement of the equipment in the operating room around the operating table.
- Automatic adjustment of the deflections and activation of the anti-collision system;
- Assisting the operator with specific functions on the keyboard to store and reference the complex positions.
- Instantly block accidentally started automatic sequences by pressing any button on the remote control.
- Double safety at the limit switches and automatic leveling recovery.
- Audible signals that warn the operator when different positions are reached (trip limit switch, movement restriction, change from "zero" position, start and end of automatic and semi-automatic operations).
- Manual emergency operation in case of engine failure.

14.6 Anti-collision system

The operating tables have an anti-collision system (active safety) to prevent collisions between the elements of the tables and the floor due to operator errors.

Through a system of integrated calculation and detection of the deflection value, the system detects the movements that can be carried out and limits the stroke (warning the operator by audible signals) to avoid damage to the system and ensure safe use even in the event of distraction errors (the operator can benefit from the performance of the device without having to worry about collisions of the device with the ground).



The anti-collision system automatically lifts the column above zero to prevent possible injury to the patient.

The system cannot avoid collisions with objects that are in the table's area of action

14.7 Emergency system

The operating tables are equipped with an emergency system that makes it possible to manually restore an erroneous movement in the event of a blocked motor. All other movements continue to work automatically.

It is operated via an extendable crank, which is supplied with the operating table.

The emergency system applies to the following motorized movements of the operating table:

- Up / Down,
- Trendelenburg and Reverse-Trendelenburg,
- Lateral tilt right and left,
- angle of the backrest,
- Thoracic opening (if present).



In the event that an engine failure triggers such an automatic function, the following movements cannot be restored:

- - Longitudinal and lateral movement of the table top



There is a risk that the mechanisms that activate the operating table will be damaged if the following instructions are not followed carefully.

To properly perform the emergency procedure, follow these steps:

- Turn off the operating table before intervening with the crank.
- Remove the cap at the location of the defective motor (the movements are indicated above the corresponding cap).
- Be careful not to lose the cap.
- Carefully insert the crank into the appropriate compartment: make sure the crank is fully inserted. A "click" confirms that the connection has been fully established.
- Now carefully rotate clockwise/counterclockwise, depending on the movement of the table you want to see.
- When you reach the desired position, remove the crank and close the hole with the cap. Notify all operators of the crank storage location.
- Only now is it advisable to turn the table back on and use the other automatic functions.

If the insertion hole is not accessible for the restoration of the Trendelenburg and reverse Trendelenburg position, lift the column until the corresponding insertion hole becomes visible.



14.8 Acoustic signals when used properly

- When the operating table is turned on, the system emits two audible signals, followed by two more audible signals after a few seconds to confirm the start. Only now can you proceed with the movement operations.
- At the beginning and end of the reset, audible signals are emitted to confirm operation (five signals indicate the start of the device stroke after pressing the "LEVEL" button and two signals indicate the end of the stroke).
- With each movement of the table, three audible signals are emitted every time the tabletop passes the 0 position.
- To confirm the end of a movement, the system emits an acoustic signal.
- To confirm that a position has been saved or retrieved, the system emits an audible signal.



14.9 Acoustic signals during a fault

If the system does not detect that the remote control connected to the operating table is present, it will emit five audible signals.

14.10 Optical signals during a fault

The red LED on the remote control indicates a motor failure.



14.11 Before Use

Before using the table for the first time, make sure that you have read this manual and understand the application (e.g. type of commands and control panels, etc.).

Before each use of the operating tables, you must perform the following operations before positioning the patient on the operating table:

Check the connection of the column to an equipotential bonding cable via the socket on the bottom of the column.



Connect the wired remote control to the column.



Turn on the table.

Make sure that the automatic check is carried out at startup. Four audible signals should be emitted (the first two from the column and the last two from the remote control) and all the red LEDs on the remote control and control panel buttons on the column should light up for about one second.

The LEDs must remain switched off at the end of the automatic control process.

Before performing any movement using the push buttons, wait 5-10 seconds after startup to allow the device to perform all automatic operations. If at the end of the process some LEDs are still lit or if short continuous acoustic signals are emitted, it means that the table is damaged.

Make sure the column has the minimum height, and if it doesn't, press the button on the remote control to bring the column back to the minimum height.

Assemble the appropriate accessories according to the specificity and type of operation to be performed. Cover the pads with sterile sheets.

Turn off the table.

15 FUNCTIONAL DESCRIPTION

This section deals with the part that refers to the different movements of the operating table, with particular reference to the movements of the table tops.

Only invoke the "horizontal position" if there is no risk of collision with people or objects.

When "lowering" the plate, make sure that there are no devices under the table.

Be aware of the risk of injury from crushing.

15.1 Important warnings

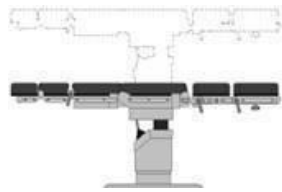
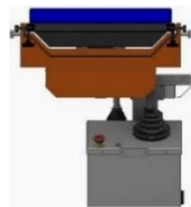
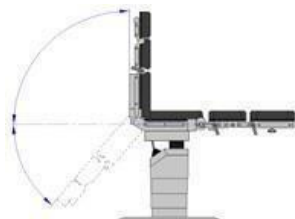
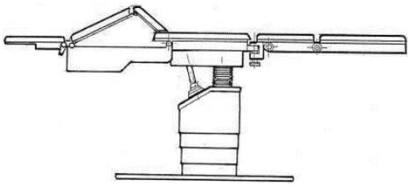
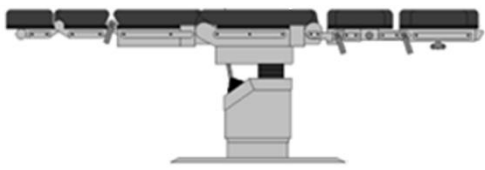
Any movement and change of position, whether manual or electric, must always be carried out carefully and in a controlled manner to avoid possible injury to the patient or the operator or damage to the table and surrounding equipment.

After the final positioning of the patient, the operating table must remain switched off during the operation.

When using electrical equipment on the patient (electrosurgery, defibrillators, etc.), the operator must not hold the remote control or place it on the table, but it must be kept in its compartment under the operating table and the table must be switched off.

**15.2 Movements of the table**

The movements (positions) of the table surface are schematically shown on the remote control and shown in the following table.

Up / Down		
Trendelenburg / Reverse Trendelenburg		
Tilt left / right		
Longitudinal displacement		
Page Shift		
Backrest		
Thoracic section		
Zero Position (LEVEL)		



15.3 Remote controls

15.3.1 Wired remote control

The wired remote control is supplied with the operating table as standard.



The remote control performs the movements only if the following conditions are met:

- the operating table is switched on;
- the batteries were efficiently charged;
- the cable of the remote control is properly connected.

15.3.2 Infrared remote control

The infrared remote control (optional) performs these movements only when:

- the operating table is switched on;
- the batteries were charged efficiently
- when the batteries of the remote control are charged and when the remote control is pointed at a receiver on the column. (A receiver is located next to the battery indicator, the other on the opposite side of the column.)

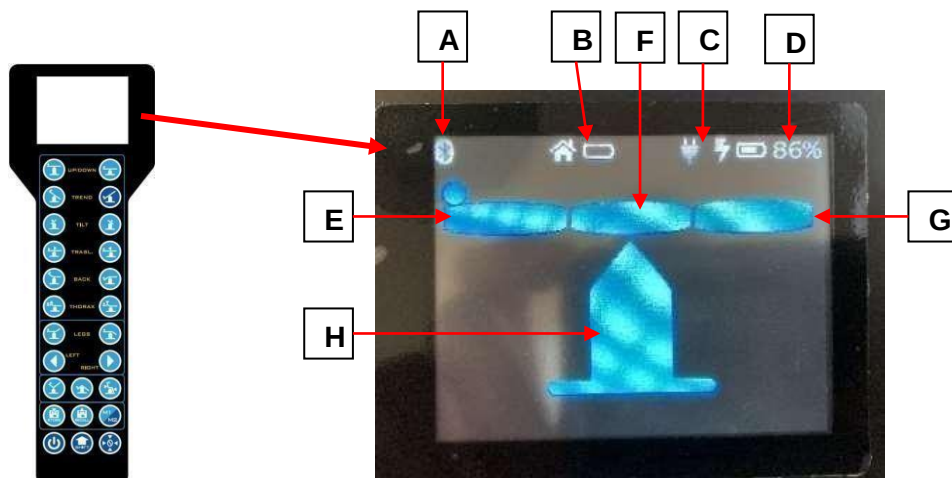


15.3.3 Display remote control

The display remote control is available upon request. The remote control performs the movements corresponding to each button only if the following conditions are met:

- the operating table is switched on,
- the batteries have been charged efficiently,
- the cable of the remote control is properly connected.

There are icons on the remote control that refer to controlling the various movements of both the individual segment and the entire table.





Symbol	Significance	Description
A	Wireless Connection Status	Off = not connected Flashing = Connection search in progress On = connected to the operating table
B	Status display of the batteries of the operating table	Battery charging
C	Remote Control Status	Charge level
D	Remote Control Batteries	Battery charging
E	Back / Thorax	Up / Down
F	Tilt Tilting	Left / Right Trendelenburg / Revers-Trendelenburg
G	Leg section	Up / Down
H	Pillar	Up / Down

15.4 Movement Commands

The motion commands can be carried out with two remote controls: the included remote control (cable) and the infrared remote control (optional accessory).

Pressing two buttons at the same time is not accepted on both remotes, with the following exceptions:

- Saving complete positions of the table in the various memories.
- Individual electrical movement of the leg section, simultaneously pushing left or right in combination with leg up or leg down.

It is also not possible to move two motors at the same time, unless the corresponding buttons are used for automatic movements.

No movements are made that could affect the mechanics.

To activate a motion, press the corresponding button that indicates the function to which this button is associated. The movement stops when the button is released.

If they reach the end of the stroke during a movement, it stops automatically so that the mechanics cannot be damaged.

By holding down the LEVEL button, all segments that are not in the zero position are automatically aligned in an optimal order prepared by the manufacturer. At the beginning and end of the reset, a short acoustic signal is issued.



15.5 Special conditions

It is important to know that some deflections or functions are controlled by the system: if the system perceives a functional incompatibility, it may restrict or block some movements to ensure smooth operation.

The operating table has constant control between the Trendelenburg and sideways movement to ensure maximum deflection in all conditions without damaging the operating table column.

Be careful during the combined Trendelenburg/Reverse Trendelenburg movement and a right/left tilt, as the table moves automatically and may allow the operator to perform the desired movement without interruptions (due to collision checking).



15.6 Reset the table position (zero position)

The LEVEL button is used to reset the different positions of the operating table.



If you accidentally pressed the LEVEL button, or if you want to stop the reset, simply press one of the other buttons on the remote control.

The only positioning that does not automatically reset for safety reasons is the thorax/renal position. This position must be reset manually via the remote control.

When individual motors are moved and they pass the zero position, the movement is slowed down until it comes to a standstill for a few seconds, emitting three audible signals: they indicate that the zero position has been reached.

15.7 Saving Positioning

Six positions can be stored, which can be recalled when needed.

These six positions are available via the M1/M4 – M2/M5 – M3/M6 buttons on the remote control.

15.7.1 Storage of positions M1-M2-M3

Make sure the LED above the "SHIFT" button shown below is turned off. Otherwise, press the button and check if the LED turns off (it can take up to 20 seconds to deactivate the button).



Press the "STORE" memory button at the same time as the M1/M4 or M2/M5 or M3/M6 button and hold it down until you hear a confirmation tone (about 2 seconds).

The audible signal tells you that the position has been saved. Saving will overwrite the previously saved position.

If you want to cancel programming, simply release the "STORE" memory open button before the confirmation tone.

Press and hold the LEVEL button for two seconds to move the table to the horizontal position.



15.7.2 Storage of positions M4-M5-M6

To activate the second memory bank, make sure that the LED above the "SHIFT" button on the remote control is turned on. Otherwise, press the button and check if the LED turns on (the button can take up to 20 seconds to activate).

Press the "STORE" memory button at the same time as the M1/M4 or M2/M5 or M3/M6 button and hold it down until you hear a confirmation tone (about 2 seconds).



The audible signal tells you that the position has been saved. Saving will delete the previously saved position.

If you want to cancel programming, simply release the "STORE" memory open button before the confirmation tone.

Press and hold the LEVEL button for two seconds to move the table to the horizontal position.





15.8 Retrieving Positioning

15.8.1 Retrieving Positions M1-M2-M3

Make sure the LED above the "SHIFT" button shown below is turned off. Otherwise, press the button and check if the LED turns on (the button may take about 20 seconds to activate).



Press the "RECALL" button at the same time as the M1/M4 or M2/M5 or M3/M6 button and hold it down until you hear a confirmation tone (about 2 seconds).

If you want to cancel the memory retrieval, simply press and hold another button of the table movement for a few seconds and wait for the confirmation tone.

15.8.2 Retrieving Positions M4-M5-M6

To activate the second memory bank, make sure that the LED above the "SHIFT" button on the remote control is turned on. Otherwise, press the button and check if the LED turns on (the button may take about 20 seconds to activate).



Press the "RECALL" button at the same time as the M1/M4 or M2/M5 or M3/M6 button and hold it down until you hear a confirmation tone (about 2 seconds).

If you want to cancel the memory retrieval, simply press and hold another button of the table movement for a few seconds and wait for the confirmation tone.

16 MANUAL ADJUSTMENTS

The operating tables allow manual settings for the following segments:

- Headboard,
- thorax,
- Backrest,
- Extension of the pelvis,
- Extension of the knee lever,
- Extension of the backrest,
- Leg sections.

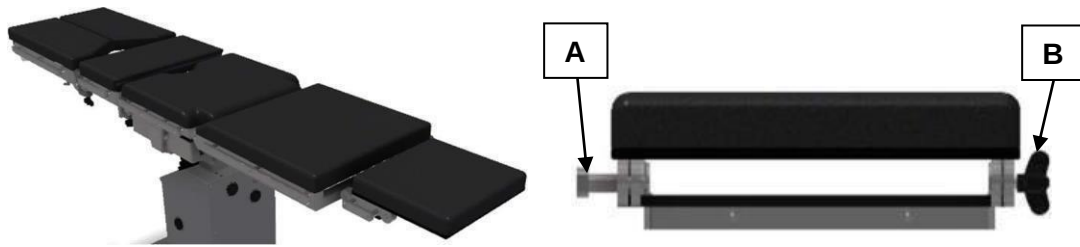
16.1 Headboard

The head section supplied with the operating table allows negative and positive adjustment, in addition, it is possible to remove it and replace it with other head parts from the accessories line (see accessories catalogue).



16.1.1 Headboard adjustment (5 sections)

To adjust and pull out the headboard, do the following:



To adjust the tilt, use handle A and screw it in. Once you have opened the handle, proceed to adjust the headboard and, when you reach the position, close the handle (before resting the patient's weight).

To pull out the headboard, use the two handles (A and B) by unscrewing them, but not completely (they could fall off). Once this process is done, pull the headboard outwards. Now you can use the table without a headboard or insert other headboards. To insert the other headboards, follow the procedures outlined below to insert the headboard.

To insert the headboard, ensure that handles A and B are in the same position as they were at the time of extraction.

When they are closed, open them by unscrewing them (not completely, as they could fall off). Insert the fixations of the headboard into the holes of the back, then close the handles to the end.

16.1.2 Headboard adjustment (6 sections)

To adjust and pull out the headboard, do the following:



To adjust the tilt, use handle A and screw it in. Once you have opened the handle, proceed to adjust the headboard and, when you reach the position, close the handle.

To pull out the headboard, use the two handles (A and B) by unscrewing them, but not completely (they could fall off). Once this process is done, pull the headboard outwards. Now you can use the table without a headboard or insert other headboards. To insert the other headboards, follow the procedures outlined below to insert the headboard.

To insert the headboard, ensure that handles A and B are in the same position as they were at the time of extraction.

When they are closed, open them by unscrewing them (not completely, as they could fall off). Insert the fixations of the headboard into the holes of the back, then close the handles to the end.

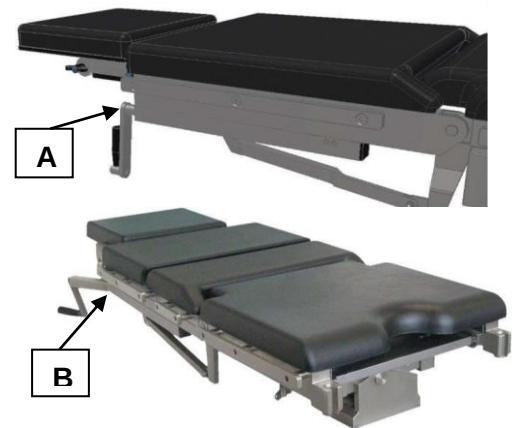


16.2 Backrest

The back section is adjusted with the crank in position (A). Insert the crank as shown and turn it clockwise to lift the rear part. Rotate counterclockwise to lower.

16.3 Thoracic section

Insert the crank in position (B) and turn it clockwise to lift the thoracic section. Counterclockwise rotation lowers the thoracic section.



16.4 Leg section

The leg sections supplied with the operating table can be adjusted manually. Two types of models can be supplied, with two sections and with four sections.

Leg section with four segments



Leg section with two segments



Both are adjustable up or down. They can be spread and pulled out by 90°.

16.4.1 Inserting a Leg Section

After checking that the wing screw is unscrewed, bring the leg part into the screw compartment, keeping the leg part inclined



Keep the leg section tilted and insert the leg section connection into the coupling on the tabletop.



Position the leg section as desired (continue to support the leg section).



After checking the correct insertion into the guide, tighten the wing screw (now you can release the leg section).





16.4.2 Adjustment of a leg section

To adjust the inclination of the leg section with 4 segments, simply use the lever. By pressing, the internal mechanism raises or lowers the section depending on whether it is pushed down or up. To lock the position once the desired height is reached, simply release the lever.



To spread the leg sections, unscrew the knob and open the leg section by a maximum of 90°, before performing any other operations, tighten the knob completely.



16.4.3 Detachment of a leg section

Loosen the wing screw with one hand and support the leg section with the other hand.



After checking that the wing screw is screwed on, tilt the leg section.



Keeping the leg section tilted, pull the leg section out of the connector compartment.



16.4.4 Spreading leg segments

Open the latch by turning the handle counterclockwise.



Support the leg section with one hand, hold the side handle firmly and spread the leg section from the other end with the other hand.

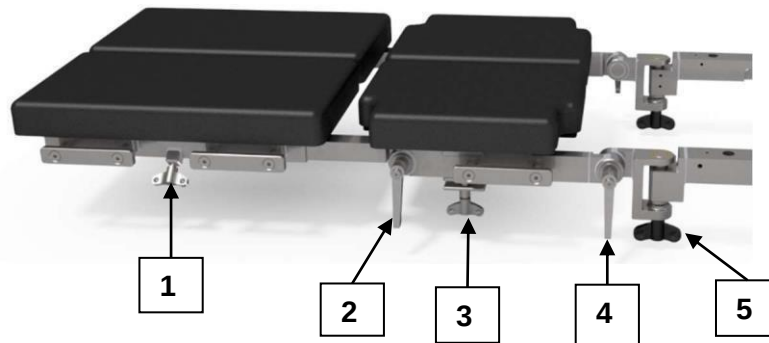


Support the end furthest from the handle with one hand and open the leg section outwards by a maximum of 90° with the help of the handle.





16.5 Leg section with 4 segments



To tilt the leg section up or down, simply use the lever (4) and the thumb screw (3):

- Loosen the wing screw and hold the leg section
- Move the lever to the "open" position

The tooth mechanism opens and you can choose the position you want. To lock the leg part in this position, simply press the lever (4) again and tighten it completely.

To angle the lower part and the upper part of the leg part by 90° (knee height), you need to open the lever (2). This time, too, the tooth mechanism, on which the leg part can be tilted, opens, and you can adjust this inclination. The section can be angled by 90° both positively and negatively.



To spread the leg part, loosen the button (5). Once you have found the appropriate position, close button 5 until you see that the teeth of the tooth mechanism interlock.

16.6 Renewals

16.6.1 Extension of the head side (5 segments)

To insert the extension, make sure that the wing screws are in the same position as they were left in at the time of extraction. When they are closed, open them by unscrewing them (not to the end, as they could fall off).

Insert the guides of the extension into the holes of the back part and then close the wing screws completely.

To pull out the extension, use the two wing screws by loosening them, but not completely (they could fall off). Once this process is done, drag the section outwards. Now you can use the table without the extension or insert other sections.





16.6.2 Extension of the head side (6 segments)

To insert the extension, make sure that the wing screws are in the same position as they were left in at the time of extraction. When they are closed, open them by unscrewing them (not to the end, as they could fall off). Insert the guides of the extension into the holes of the back part and then close the wing screws completely.

To pull out the extension, use the two wing screws by loosening them, but not completely (they could fall off). Once this process is done, drag the section outwards. Now you can use the table without the extension or insert other sections.



16.6.3 Side extension of the legs

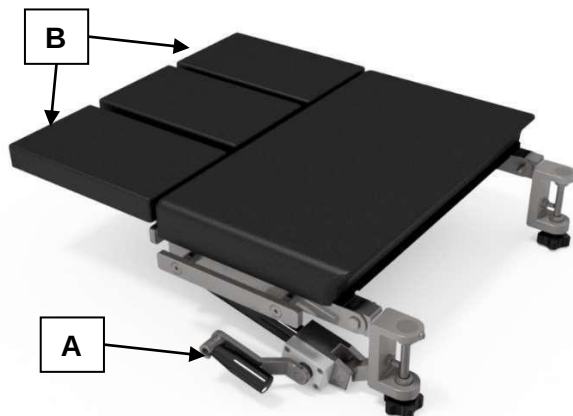
To insert the extension, proceed as follows: Insert the extension by inserting the latches into the appropriate guides. After checking that the latches are inserted correctly, tighten the screw knobs.



16.7 Pelvic support / backrest for shoulder

Before proceeding with the insertion of these segments, make sure that all leg parts have been removed. Insert the latches of the pelvic support or backrest into the appropriate guides. After checking that the latches are inserted correctly, tighten the knobs.

To remove the segment, unscrew the buttons, tilt the segment upwards and pull it out of the corresponding guide.



To adjust the articulated backrest for the shoulder, use the crank (A) as follows:

- tilt upwards, turn counterclockwise,
- tilt downwards, turn clockwise.

You can remove the two side support sections (B) of the backrest as follows:

- Loosen the handle by turning it clockwise and slide the support you want to remove along the guide (C) to pull it out

To reinsert the two sections, proceed in reverse order:

- Slide the section along the guide and then lock it in place by turning the handle counterclockwise.

You can add headrest sections above the backrest as follows:

- Insert the headrest (A) near the guide (C) and attach it to the backrest with the wing screw.



16.8 Kneeling bench

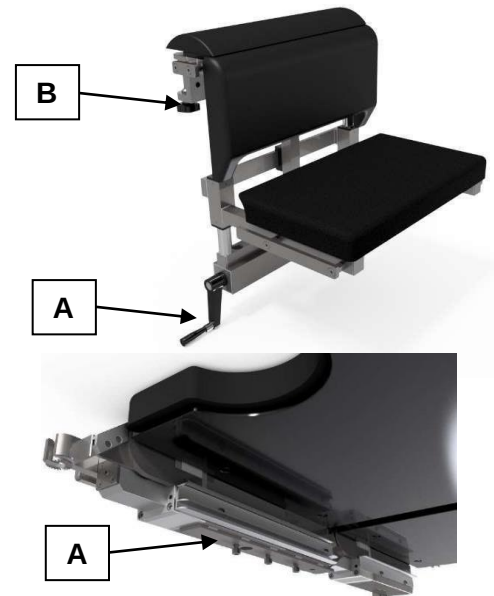
To insert the kneeling bench, proceed as follows: Insert the kneeling bench by inserting it into the appropriate guide.

After checking that the kneeling bench is inserted correctly, tighten the knob (B).

To remove the kneeling bench, loosen the knob (B), tilt the part upwards and pull it out of the guide.

To adjust the kneeling bench, use the crank (A):

- for lifting, turning counterclockwise,
- turn clockwise to lower.



16.9 Pelvic segment

To insert the cymbal segment, slide it into the appropriate guides (A) located under the tabletop.

17 ACCESSORIES FOR CF MODELS

17.1 Sliding accessory holder

Before proceeding with the insertion/removal of the accessory holder, perform a self-leveling of the table (LEVEL).

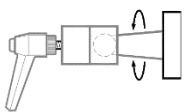
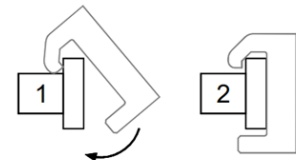
To insert the holder, loosen the buttons without removing them, then position the holder in the side extensions of the top and slide it into the desired position.

To remove the holder, loosen the buttons without removing them, then slide the holder along the extensions until it is removed.

Regardless of whether the buttons are maximally tightened or not, the holder is built in such a way that it follows the movement itself during longitudinal translational deflections of the plate and slides integrally with the plate without blocking.

17.2 Stability bars

To insert the rods, unscrew the knobs without removing them, then slide them along the front guide of the operating table. When the desired position is reached, screw the knobs back on.



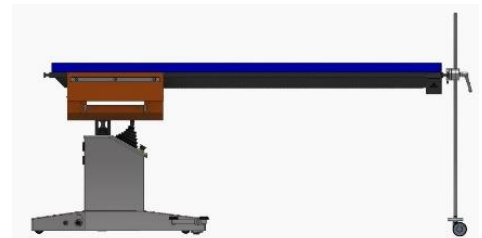
To adjust the height of the pole, adjust the crank.

To remove the rod, unscrew the knobs without removing them completely, then slide along the guide until it is removed.

It is recommended to insert the bar before performing the following movements: longitudinal translation, maximum deflection.



Deflection of the table (length) no more than 1100 mm without safety rod!





Always insert the safety rods before performing a side tilt to reduce the risk of tipping over!
Loosen the safety rods when you activate the lift/lower movements.

Remove the rods, in case of Trendelenburg / Reverse Trendelenburg, lateral tilting (right / left) and when resetting (leveling).
This prevents the safety bars from resisting, which could cause damage to the table.

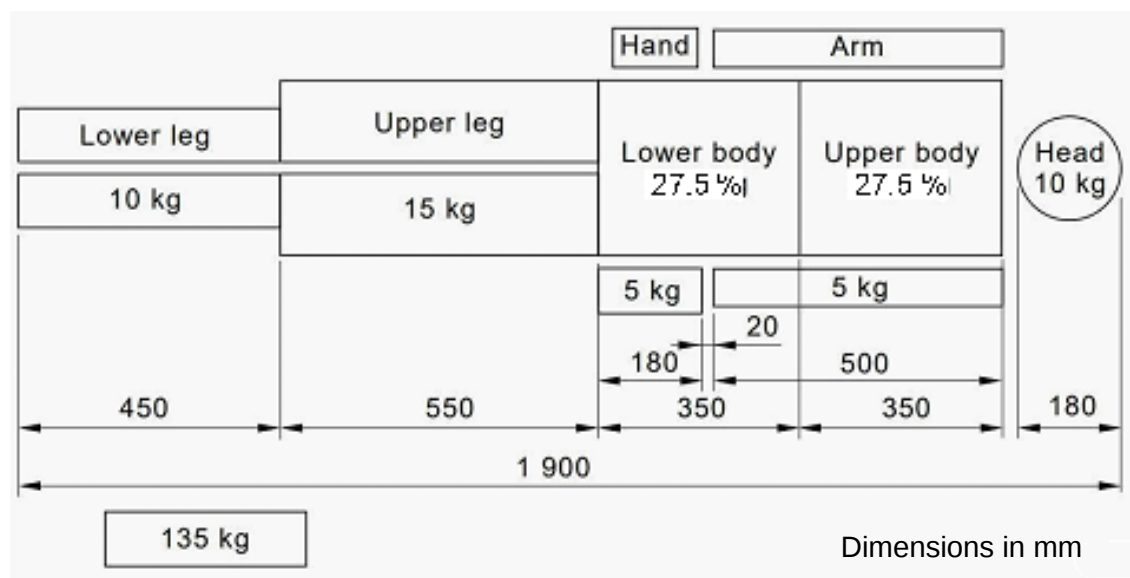


18 PATIENT POSITIONING

The positioning of the patient on the tabletop must be done with due care: with even weight distribution, the tabletop can support patients up to 360 kg.

18.1 Weight distribution

The following figure illustrates how the patient's body weight should be correctly distributed on the operating table.



	Lower leg	Upper leg	Lower body	Upper body	Hand	Upper arm	Head
Percentage of <i>added</i> mass (over 135 kg) to be applied to each part	10 % total (5 % each)	32 % total (16 % each)	32 %	14 %	3.0 % total (1.5 % each)	7 % total (3.5 % each)	2.0 %
Examples of application of additional mass for PATIENTS over 135 kg							
135 kg PATIENT (reference)	10 kg each	15 kg each	27,5 kg	27,5 kg	5 kg each	5 kg each	10 kg
250 kg PATIENT	15,8 kg each	33,4 kg each	64,3 kg	43,6 kg	6,7 kg each	9 kg each	12,3 kg
360 kg PATIENT	21,3 kg each	51 kg each	99,5 kg	59 kg	8,4 kg each	12,9 kg each	14,5 kg

These values only apply when using the optional accessories for bariatric surgery!

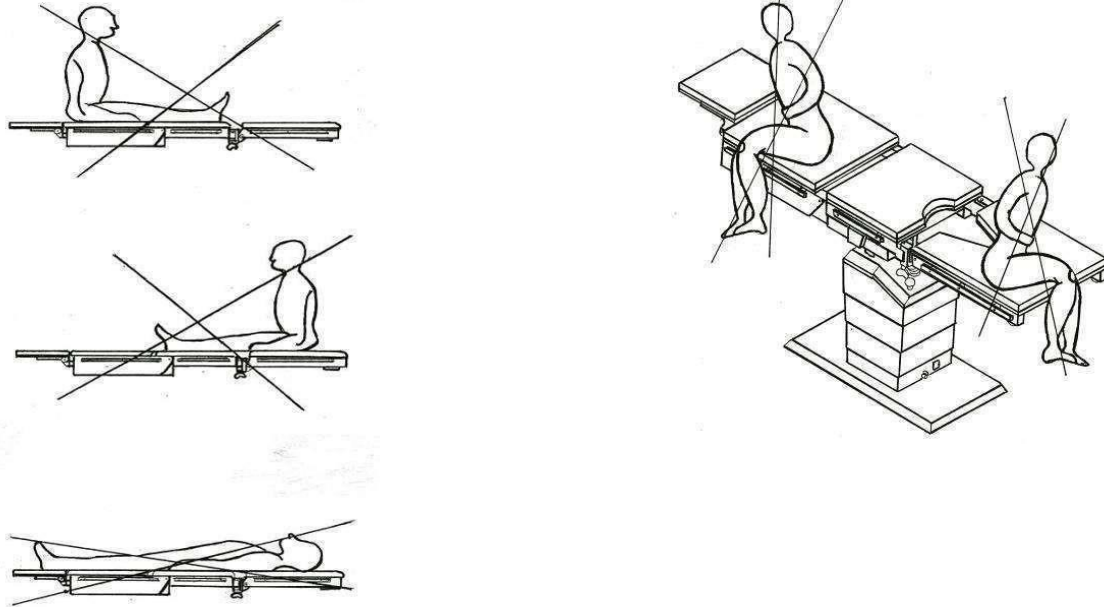


18.2 Correct positioning

The correct positioning of the patient during the installation and removal of the operating table with the transport trolley:



18.3 Incorrect positioning



Never load the table on one side on the ends with the total weight of the patient. There is a risk of a proportional imbalance. The patient and the user can be endangered by this!

19 ENGINE OR MECHANICAL FAULTS

In the event of an error, the system emits short, continuous tones to warn and certain functions may no longer be usable.

If a fault related to the movement of a single motor is detected, the system emits short audible signals, the red LED turns on, and the movement of the faulty motor is blocked.

In this case, the table can be used without the movement signaled on the remote control.

In case of an error, the LEVEL function also works in partial mode:

- if the faulty motor is one of the motors of the column, an automatic reset is not possible,
- if the defective motor is one of the motors controlled by the table (e.g., backrest part, leg part, or thorax/kidney opening), leveling is possible, except for the motion corresponding to the defective motor.

However, the blocked movement can be resumed manually:

- turn off the table to avoid irreparable damage to the mechanics,
- move the table using the emergency crank.



20 STORAGE AND TRANSPORT

20.1 Storage

If the operating table is to be stored, it must be placed back in its original packaging, along with its accessories, and arranged exactly as it was supplied by the manufacturer. The packaging protects the device from normal shocks and vibrations that may occur during transport.

Also, comply with the following storage conditions:

- Temperature: -5 °C / +35 °C;
- Humidity: <50%;
- Clean, dust-free environment.

20.2 Transport

The table and its accessories must be transported in their original packaging. The packaging protects the device from normal shocks and vibrations that may occur during transport.

The transport packaging is not waterproof!

21 DISPOSAL

At the end of its life, the medical device must be disposed of by an authorized company in accordance with the applicable country-specific legislation.

22 MAINTENANCE

Routine and unscheduled maintenance may only be carried out by qualified technical personnel. The support and maintenance manual is provided upon request.

For maintenance, repairs and other support, please contact the manufacturer.

Recommended maintenance cycle: 1 year.

It is advisable to check the status of the operating table's electronic management system and the batteries that power the operating table annually. The control may only be carried out by qualified personnel authorized by Tekno-Medical.

It is advisable to keep a record of every inspection and repair of the operating table.

All work at the table must be carried out in accordance with the applicable technical safety standards.

23 CONSUMABLES

23.1 Batteries for the operating table

Replacement batteries preferably come from the same manufacturer and must have the following characteristics:

- Same capacity and voltage,
- Same charging behavior,
- Same plugs for power cable connections,
- Same geometric dimensions,

The batteries must always be replaced in pairs at the same time!

Failure to observe the above points can affect and damage the batteries and thus the smooth operation of the operating table. For these reasons, it is advisable to contact the manufacturer of the operating table.

The full capacity of the batteries is given for a variable period between 3 and 5 years. However, this depends on regular recharges and their maximum number (approx. 200 charging cycles).



23.2 Batteries for the remote control

The battery of the infrared remote control must be replaced under the following conditions:

- If, after a full charge of the batteries, the LED stays off when touching a button, it means that the battery needs to be replaced.
- When the distance to the table must be reduced to send a command.

23.3 Requirements

It is recommended to replace the pads regularly:

- every 5 years, for overlays made of POLYURETHANE material
- Every 10 years, for MEMORY FOAM material toppers

Regardless of the type of material, you must replace the pads immediately in the event of wear or damage.

24 USE WITH NON-ORIGINAL ACCESSORIES

The operating tables can be used with accessories from other manufacturers, as the guides (interfaces) are standardized. In this case, in order to ensure safe and correct operation, it is necessary to check that the maximum capacity (load capacity) of the corresponding segments is reached, taking into account both the weight of the patient and the accessories assembled.

25 AFTER THE MISSION

At the end of each use of the operating tables, the following operations must be carried out to allow their reuse in a correct and safe way:

- remove the sheets from the top of the table (pads),
- remove the accessories,
- turn on the table,
- lift the column completely to fully expose all surfaces for the cleaning work,
- turn off the table and disconnect the battery from the power supply,
- Perform cleaning operations on all components used.

26 CLEANING AND DISINFECTION

It is important to always disconnect the device from the power supply by removing the plug before cleaning and disinfecting it.

It is forbidden to use abrasive cleaners and disinfectants. Chlorine, chloride and acetic acid detergents are also prohibited.

26.1 Remote control

To clean and disinfect the remote control, you can only wipe it with a slightly damp cloth. It is not allowed to immerse the part in liquids of any kind.

Cleaning products with a low alkaline value are approved for cleaning plastic components.

26.2 Table Column

The table column should be cleaned after each use (set to maximum height beforehand).

The following cleaning agents are approved for stainless steel components: all commercially available stainless steel cleaners.

The following cleaning agents are approved for plastic components: all generic alkaline cleaning agents.

All disinfectants available on the market may be used, provided that they meet the specific requirements (with CE marking).



26.3 Segments

The care of the segments is limited to regular cleaning with suitable substances.

The following cleaning agents are approved for stainless steel components: all commercially available stainless steel cleaners. The following cleaning agents are approved for plastic components: all mild alkaline cleaning agents.

All disinfectants available on the market may be used, provided that they meet the specific requirements (with CE marking).

26.4 Requirements

The pads are completely removable to completely clean the segments even underneath. In addition, the treatments carried out on the surfaces make the cleaning and disinfection of the overlays more effective. Before you start cleaning, remove the pads from the segments to avoid material build-up and residual dirt between the top of the segments and the pads.

The following cleaning agents are allowed for the pads: all cleaners with a low alkaline value.

All disinfectants available on the market may be used, provided that they meet the specific requirements (with CE marking).

26.5 Transport trolley

The care of the transport trolleys is limited to regular cleaning after the end of an operation.

The following cleaning agents are approved for stainless steel components: all commercially available stainless steel cleaners.

The following cleaning agents are approved for plastic components: all mild alkaline cleaning agents.

All disinfectants available on the market may be used, provided that they meet the specific requirements (with CE marking).

27 REPORTING PRODUCT PROBLEMS



In accordance with the requirements of Regulation (EU) 2017/745 on medical devices and our quality management system, all product problems must be reported to the manufacturer.

During business hours you can reach us by phone at +49 (0) 07461 / 1701-0.

Outside of regular business hours, please send an email to safety@tekno-medical.com.

Serious incidents must also be reported to the local authority responsible for their location.

28 WARRANTY

The products are manufactured from high-quality materials and undergo quality control before delivery.

Should any defects occur, please contact our service department. Tekno-Medical cannot guarantee that the products are suitable for any specific procedure. This must be determined by the user. Tekno-Medical accepts no liability for accidental or consequential damages.

Tekno-Medical accepts no liability if it can be proven that these instructions for use have been violated.

29 SERVICE AND REPAIR

Do not attempt any repairs or modifications to the product yourself. This is the sole responsibility of authorized manufacturer personnel. Defective products must complete the entire refurbishment process before being returned for repair.

For returns, please use our RMA application form and decontamination certificate.

You can find the forms on our homepage: <https://www.tekno-medical.com/de/service/reparaturservice/>



30 SYMBOLS

30.1 Symbols on the label

Symbol	Description	Symbol	Description
	Attention!		Manufacturer
	Medical device		Date of manufacture
	Non-sterile		Follow the instructions for use
	Catalogue number		Protect from sunlight
	Batch designation		Store in a dry place
	Unique product identification		CE mark

30.2 Icons used on the device

SYMBOLS	DESCRIPTION
	Caution! Follow the instructions for use Indicates that the user must consult the instructions for use.
	Removal of the tabletop for a system with interchangeable tabletops.
	RISK OF CRUSHING on the transport trolley during the loading and unloading phase
	On the cart with ultra-flat bottom: The bar shows the position relative to the anti-static feet.

**31 TECHNICAL DATA**

The following data applies to models of the VECTOR 5 operating tables.

31.1 Mechanical properties

Dimensions: STANDARD models	2000x500x800 mm
Dimensions: EXTRA models	(min. 1000/max. 2700) x 500 x 800 mm
Thickness of the pads	50 / 80 mm
Load capacity	250 kg
Weight of the operating table	approx. 145 kg
Electrical positioning	
Standard Models	
Trendelenburg / Revers-Trendelenburg	25° / 30°
Up/Down (range)	300 mm
Tilt to the right / left	20° / 20°
Longitudinal translation (optional)	300 mm
Tilt of the back part	+70° / -35°
Leveling	Automatic
EXTRA Models	
Trendelenburg / Revers-Trendelenburg	35° / 30
Up/Down (range)	Min 950 mm – max 640 mm (310 mm)
Tilt to the right / left	25° / 25°
Longitudinal translation (optional)	365 mm
Tilt of the back part	+80° / -40°
Tilt of the leg part	+20° / -90°
Inclination of the leg section	0° / 180°
Leveling	Automatic
Manual positioning	
Standard Models	
Tilt of the headboard	+80° / -90°
Backrest Tilt	+70° / -35°
Tilt of the leg part	+20° / -90°
Inclination of the leg section	0° / 180°
EXTRA Models	
Tilt of the headboard	+80° / -90°

31.2 Electrical properties**31.2.1 Operating table**

Type of power supply	Internal low voltage
Emergency power supply	External Battery Charger 27.6 VDC Max
Internal supply voltage	24 VDC
Batteries	2 x 12 V / 12 Ah (connected in series)
Engines	24 VDC / 6.5 A maximum
System absorption in the event of stopped motors	< 150 mA
Absorption with moving motor	3.5 A rated power (no peak)
Heat loss	Maximum 2 W
Maximum motor current limit for the block	4 A

**31.2.2 Battery charger**

Supply voltage	220 VAC +/- 10%
Frequency of power supply	50 Hz
Absorption	Maximum 2 A
Heat dissipation	< 40 W
Protected from overtemperature and current	Yes
Network fuses	2 x 1.6 A
Internal backups	1 x 6.3 A / 1 x 4 A
Output voltage	27.6 VDC
Electricity supplied	5 A max. (automatic limit)
Power when connected to the table	< 1 mA at 27.6 VDC
Security class – type	1 – BF
Leakage current to output voltage	< limit value
Idem in the 1st error state	< limit value
Idem under SFCA conditions	< limit value
Leakage current to the housing	< limit value
Idem in the 1st error state	< limit value
Leakage current against earth	< limit value
Idem in the 1st error state	< limit value

31.2.3 Table connection: Battery charger

Leakage current to the table	< limit value
Idem in the 1st error state	< limit value
Idem under SFCA conditions	< limit value
Leakage current to the table housing	< limit value
Idem in the 1st error state	< limit value
Leakage current against earth	< limit value
Idem in the 1st error state	< limit value
Resistance of the ground connection	< limit value

Connection to the protective earth via a socket is required.

The output voltage for charging the batteries of the table is a potential-free version, with leakage currents to the protective earth and to the housing, type BF (according to DIN EN 60601-1).

Measured with included power cord.

The tests were carried out with a table isolated from the floor, which simulates the most critical safety conditions without connection to the table's bonding grounding connection. The ground of the charger is connected to the ground of the table.

The battery charger housing is electrically connected to the table housing.

REF

32 APPENDIX: PRODUCT LIST

Last update: 22.08.2024

300-2120	303-3070	308-0040	305-0220
300-6050	303-3220	308-1010	352-5190
301-5020	306-9020	352-0001	